App. F. IX-4

Previous References

1935-6
(G.G)

File No. 65-35

Serial Nos. 1-10
14-15

Letter References.

~~G.G.~~ 141-36 (1-8)
G.G. 15-35 (13, 16, 17, 20, 21)
" 143-37 (1-2)
" 74-37 (1-3)
61-38 (1-2)
" 88-38 (1-4)
108-39-1-2
" 123-39-4
G.G. 36-42 1-33.
Serial Nos.

EG 105-45-3-6.

Jen + Iwa

GENERAL AND REVENUE SECRETARIAT.

Part B for [redacted] 37.

SUBJECT.

Scheme for fruit cultivation and research
in mysore

9 5 41 0 dt. 24, 2-37
to depot G.G. ii Director of Agri
WD 0418—GPB—22,500—20-8-36 iii Ch Engr iv Dy Comm
Bangalore
Copies to go

Records sanction to the

25-2 Foreign Training Fruit Culture

General and Revenue Secretariat

G.G.

File No. 42 of 1934

[App. F. III–2

Serial No.	
1	Letter No V 243 dated -- 2-35 from the Registrar, Mysore University forwarding an application from Mr. K. V. Srinath, Demonstrator in Botany offering to undergo foreign training in Fruit Culture. Mr. K. V. Srinath, M.Sc., Demonstrator in Botany, Intermediate College, Bangalore and a Research Scholar, intends to make a special study of Fruit breeding in general and pomology in particular. He states that he has had good preliminary training in plant Cytology which is allied to plant breeding, and that he wishes to specialise in this branch of knowledge by getting training in some of the important Centres of Fruit Culture Research in foreign countries. He is prepared to meet the cost out of his own pocket provided the government undertakes to give him a substantial appointment after his return duly qualified. Submitted for orders. SAR 1.3.35 SRy 1.3.35. 2) Myles. referred to the Development Dr Chief Sec 3) RR 4) Dy Dr/ The creation of a new post cannot be anticipated. Submitted for orders KR 5/3 5 Mr Srinath had seen me and explained to me that

Note—Contn. Sheet.

4-2-1-V

File No. of 193 | General and Revenue Secretariat

he is prepared to undergo training at East Malling Fruit Cultivation Centre if there is some assurance of his being appointed as the Officer in charge of the Fruit Research Scheme to be started at Bangalore. The idea at present is that the Scheme should be entrusted to the Superintendent Gardens. But nothing definite has been decided. In view of the reduced grants sanctioned by the Imp. Council of Agrl Research the details of the Scheme have to be modified so as to keep expenditure within the grant. It is not therefore possible to give any assurance as to appointment sought for by Mr Srinath. Besides Mr Srinath does not appear to possess any practical experience of fruit culture or horticulture

5354/6/3

Dev Secy 6/3.

6 The scheme as modified will be considered and work will have to commence immediately thereafter.

7 It is hoped that the Government seeds will not be available & will have to be purchased as the latter should be fresh

Serial No.

in charge of this work. Perhaps Dr Badami the economic Botanist is the only officer available & qualified. The Dr of Agriculture will be consulted on this point. ——— ——

8 — It is perhaps desirable to train other officers in fruit culture. The kind and period of training to be decided by the Dr. maybe asked to draw up a programme.

9 The best available candidate in every case be the selected & the best way would be to invite offers. Dr Sonwalkar after maybe consulted along with the others. It is a point in his favour that he is going to meet the Secretary himself

~~to order~~

Secretary

RECEIVED
SECOND MEETING COUNCIL
18 MAR 1935
No. 3668

7.8.3.35

10 A. Please ask the Dr to and Supt of Hort meet me & discuss the points arising out of the Fruit Research Scheme.

The Scheme with have to be worked by the Hort. Dept & consulted with the Agri Dept

19.3.

NOTE—Contn. Sheet.

WD 01955—GPB—22,500—12-6-34

4218/D

A9 File No. of 193 | General and Revenue Secretariat

11
Dft Subd. The time & date of meeting have to be filled up.
Htto 26/3/35

12 Second Member. 27/3

13 On Monday the 1st at 3-30 pm

1-4-35
CEN... SECOND MEMB
27 MAR 1935
No. 4997

8/27 28/3

Fruit culture Scheme

14 /Secy 28/3

Submitted.

15 Accg to the orders of the 2nd Member yesterday, intimation has been sent to the Director of agri & the Supdt G.G. to meet the Member at 3.30 pm on Monday the 1st proximo:

Sent to Dir Agr on 9-9-35 DWG 9/9

DWG 29/3/35 16 The file might be given some attn in the morning MW 29.3.

17 File sent back to Dir Agr DWG 9/9/35

1592 12/9/35

18 Subd. It is not clear whether the Dir of Agri & the Supdt. G.G. met the Member & discussed the question.
Htto 9/9/35

19 Devy 9/9

20 I am unaware of [illegible] MW 10/9

Serial No.

21 Subd It is ascertained by phone as ordered, that the meeting did not take place. For orders.
HHD 20/9/35

22 Mr Lew D of Agri & Supt Hort Res. Cuttack requested to meet the Secy Member now
Dwr 20/9

1819 21/9/35

23 In what stage is the scheme in the Imp. council yet. Research.

HW 3.10.35
HHD 6/10

24 Subd. From the proceedings of the Governing Body of the Imperial Council of Agri. Research at their meeting held in Jan 1935, it is clear that the Scheme as modified by the Fruit Comee, the Advisory Bd & the Vice Chairman, was sanctioned. But no formal communication has so far been received

Flag A. (vide page 21)

25 Dwr 25/10
HHD 12/10/35

26 Please speak to me HW 17.10.

2663/17/10

27 Dft letter to the Imp council as submitted in para 24 ante

28 Dwr 30/10

HHD 29/10/35

NOTE.—Contn. Sheet.

W.P.(S.)594—GPB—30,000—18-7-35

2567/35

Development of fruit culture in Mysore.
Scheme Subd to the Imperial Council
vol I

6)

AFB File No. of 193 | General and Revenue Secretariat

29 May the draft in the file issued?
Forwarded.
Forwarded

MW.
4.11.35.

30 Yes as slightly revised

SDV
6/11

31 Issue & submit

7/11

To The Secy, Imperial Council of Agriculture.
No. D. 3219 & 13.11.35.

Request to be intimated of the stage at which is pending and when a formal communication and allotment of funds may be expected.

32 Subd after issue of the letter to the Imperial Council. 33 For perusal

Secnd Member

16/11/35

Dewan

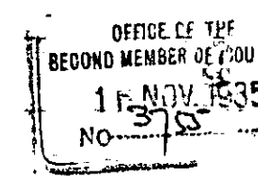
35/11

~~Some Hon'ble Members of Parliament see~~

34 Perhaps I should like to see the papers relating to the scheme, already

seen

17/11/35



MW. 18.11.

18/11

Serial No.

35 Subd with refce to para 34 above A 76 collections 90-32-(1-3) etc & 90-32 (60, 61, 64 & 65) are put up (Fruit Research Scheme)
Hdtd 20/11/35 — 36 dsw secy // 29/11

4421 3/12

37 Hayden pubd the Secretaries along with the relay received from the Comite

DW 2.12
Ly 2.12

From The Secy, Impl Council of Agri. Research.
No. 7-241-34/Agri dd 29/11/35
states that it will not be possible to say when funds will be allotted to the Fruit Scheme till the financial position of the Council, which is under examination is known & that a further Communication will be made shortly

OFFICE OF THE SECOND MEMBER OF COUNCIL
7 DEC. 1935
No. 4423

38) Subd with refce to para 37 above
Hdtd 5/12/35 — dsw secy // Ly 5/12

3689 6/12

39 Secretariat

DW 6.12
Ly 6.12

NOTE.—Contn. Sheet

WD 03594—GPB—30,000—13-7-35

Hdtd 11/12 19/12

HD DW 9/12/35
DW 9.12.35.
Ly 9/12/35

REPLY

(*To be written on this margin.*)

OFFICE OF THE
SECOND MEMBER OF COUNCIL

NOTE

3276

Dated....16th...January.....1936.

OFFICE OF THE
SECOND MEMBER OF COUNCIL.
16 JAN 1936
No. M-117

41) I should like to see the papers relating to the Fruit Research Scheme.

Mcq

General Secretary,
with compliments.

42) Agreed. Today

Mcq
17.1.36.

Wy.
17.1

43) Subd with the papers.

Hbto
17/1/36 KG

44) Agreed Wy.
17.1

OFFICE OF THE
SECOND MEMBER OF COUNCIL.
20 JAN 1936
No. 5498

45) Mcq
17.1.36

Seed Inventory Wy.
17.1

46) Seen Thanks.

47) We may work it out in March as to how the matter stands, if we do not hear from the council in the meantime

A. B.

48) some of the old files which can Mcq 17/1/36
be removed may with the records

(49) Bor. Measr. A
write Keates-
outstanding
Mcq
17/1/36
B

Wy
17.1

Fruit Scheme

35-36 (210)

General and Revenue Secretariat — File No. — of 193 — [App. F. III—2

Serial No.

50) Subd. No reply has yet been recd from the Imperial Council. Draft letter is put up for consideration. After issue the file will be sent, if approd, to the G.G. Section to record the old files which relate to that Section & are linked to this file.

7/3/36 8/3 (Dy Secy) 10.3

51) Please write in the middle of April

Dy 13/3 10.3

To Edn Br. with compliments for kindly perusing the two G.G. files linked to this for taking further action as per orders at para 8 above & returning this file

G.G. 67-30

78 13/3

The G.G. files have been returned with Edn Branch and this file is returned

Dept. Br. W/C 13/3/36 BK 18.3.36

52) The Dy Secy had called for this file. He told me that the Govt of India are likely to give the necessary grant if we press for it. He said that Mr. Jayaraj had spoken about this & the Secy asked me to submit the file to the Dy Secy & take further action under the orders of the Member

Dy Secy) 30.3.36

GENERAL REC... 11 MAR 1936 ...

NOTE—Contng Sheet.

Sir 15-4-36

WD 03594—GPB—30,000—18-7-35

11) ~~Sugar Refinery~~ Fruit Research Scheme.

3 2 1

(3

File No. of 193

General and Revenue Secretariat

53) Subd for perusal. The Supt Council Agricultural Research have written today that no schemes not sanctd so far will be taken up till the experts coming from England have reviewed the work already done

54) It is possible that this scheme will be treated as already sanctd and waiting only to be financed

55) The Secy Supt Cl Agr. Res. will be reminded

Second Member

Sd
3/3/36
Ly.
1.4.36

56) Nee
1/4/36

57) Por Off reminding Sd
4/4
Ly
2.4.36

58) The matl- is passed (A-l Secy) Ly
2 4 36

Draft for approval.

GENERAL SECRETARIAT
4 APR. 1936
55

59) Done
Sd
4/4

TYPING SECTION
6 APR. 1936
GENL & REV. SECTT.

To the Secy, Supt. Council Agrl Research Ly 6.4.36
No D-6082 dt 6-4-36
Enquires When the further Communcatn
may be expected

Fruit Research Scheme?

12)

General and Revenue Secretariat — File No. — of 193 — [App. F. III—2

Serial No.

Reply to above dated 15/4/36.

Key T

60) Subd for perusal.

61) With reference to the budget estimates for 1936-37 of the Imperial received by the Seed Member and given to me with instructions yesterday. I have put up a draft to the Seed Member as directed.

Sd/ 21/4/36

OFFICE OF THE SECOND MEMBER OF COUNCIL. 21 APR. 1936 NO. 847

Seed Member

62) Please issue & submit to the Dewan

Sd/ 22/4/36

* Fair Copy signed by 2nd Member. CLG 22/4/36

63) Please issue the letter and put up

Sd/ 22/4

Do. No. 6336 dated 22.4.36 to the Secy: Imperial Council of Agri. Research

64) Subd for perusal.

Flags T & Z

Sd/ 22/4/36.

DEWAN'S OFFICE 23 APR. 1936 No. 6473

65) Dewan

Sd/ 23-4-36

Sd/ 23.4.36

NOTE—Cotton Sheet.

WD 03594—GPB—30,000—13-7-35

Subs A

30/4

GEN. & REV. SECRETARIAT 30 APR. 1936 DEVELOPMENT BRANCH.

Sd/ 24/4/36

Sd/ 24.4.36

Scheme for fruit cultivation in the Mysore State

(13) 3276 6050

File No. of 193 | General and Revenue Secretariat

From The Secy, Imperial Council of Agri. Research,

No. F 241/34/A dt 9/6/36

states that the fruit research scheme of Mysore has been sanctioned with certain modifications at a total cost not exceeding Rs 46,200 & spread over five years & calls for a detailed programme of work & the amount req^d for expenditure during the current year, provided the Govt is acceptable on the terms mentioned.

It is submitted with refces. Kind attention is invited to para 10 above in which the then II member has minuted that "the Scheme will have to be worked by the Horti. Dept, of course with the co-op^n of Agrl. Dept." Now that the Scheme has been sanctioned, these papers will, if approved, be transferred to the G.G. Section for further action being taken there.

Hdo 18/6/36

18/6/36

Gen Secy (67) Submitted for perusal. The Superintendent Govt Gardens will be asked to send proposals in consultation with

19 JUNE 1936 493

scheme for fruit cultivation in the Mysore State

6052

14)

General & Revenue Secretariat. | File No. | of 193 | [App. F. III–2

Serial No.

x written a fortnight ago

the Dir of agriculture x

Rec'd 19/6

19/6

Rec'd 19/6

the Dir of Agy

8298 19/6

RECORD SECTION 1936 No 9969

NNN 24/6/36

24/6/36

new 26/6/36.

Rec'd 26/6

29/6/36

TYPING SECTION 29 JUN 1936 GENL & REV. SECTT.

(68) Draft to the Govt. G.S. subs to appr

to PB 28/6 28/6/36

(69) Issue 29/6/36

Letter No D7943 dated 30/6/36 to the Govt Gardens. Calling for detailed technical programme of work on the scheme of fruit Cultivation sanctioned by the Govt Commy/Non Recurring Memo No D7946 dated 30/6/36 to the Dir of Agriculture. forwarding copy of the letter and the scheme

Sent B. till the 15th July 36

to A 1/7/36

(70) Draft Do reminder to the Govt G.S. subs to appr

to PB 20/7

(71) Issue 21-7-36

Memo No 626 Dated 23/7/36

NOTE—Contn. Sheet

GENL & REV. SECRETARIAT 1 JULY 1936

DEVELOPMENT BRANCH

TYPING SECTION 19[illegible]

Sent A to PB 27/7

GENL & REV. SECRETARIAT 26 JULY 1936 DEVELOPMENT BRANCH

15) Scheme for fruit cultivation 6050 / 704 in the State

File No. 65 of 1935	General and Revenue Secretariat

Telegram :—"HORTI".

704
7 AUG. 1936
DEVELOPMENT BRANCH

M. K. SITARAM CHETTY, L.Ag., 220
Superintendent.

GOVERNMENT BOTANIC GARDEN,
LAL-BAGH, BANGALORE.

Dated.....5th August.....193(

G. G 65-35

Ws. 26
7.

Dear Sir,

With reference to your D.O.letter No.626 dated 23-7-1936 calling for a detailed technical - programme of work in connection with the Scheme for Fruit Cultivation in Mysore State, I write to inform you that the Scheme was drawn up with reference to a site near Hessarghatta and a copy of it was sent to - the Second Member of Council for perusal before his inspection of the site proposed for the Fruit Research Station. The Member inspected the site on the 28th - July 1936 and he is expected to visit another site near Lalbagh selected by Mr G.H.Krumbiegel. The detailed - Scheme will be submitted to Government after the --- inspection of the Second site by the Member with necessar -y alterations in the estimate if necessary

Yours Sincerely,

M K Sitaram

TO

K.Subba Rao, Esq.,B.A.,
Assistant Secretary to Govt.
General & Revenue Secretariat,
BANGALORE.

(72) Submit with reference for perusal. The report from the Subject will be awaited till the end of this month and a reminder will issue thereafter

Ho Mys 12/8/36

73) Ch. Secy 12.8.36

(74) 2nd member) Mys 13.8.36

75) The Supt. Govt Exp. Stn may be asked to see me about the matter on Tuesday at 3-30 p.m. SAM 16/8/36

76) Dr. Inspector Mys Instructed Supt 17/8 Lfy 17.8.36

OFFICE OF THE SECOND MEMBER OF COUNCIL
14 AUG. 1936
11.0.2

CHIEF SECRETARY
13 AUG. 1936

Scheme of Fruit Cultivation & Research
704 5898 in Misc 16)

General & Revenue Secretariat. 95 File No. 65 of 193 5. [App. F. III–2

Serial No. 77) Draft D.O. to Subba Rao

76) 17/8/36

78) Issue by day ltr. 17.8.36

Issued No D 1343 Dated 17/8/36

Telegram:—"HORTI".
No 00311
M. K. SITARAM CHETTY, Offg. Superintendent.

GOVERNMENT BOTANIC GARDENS,
LAL-BAGH, BANGALORE.

L.A. 898 17 AUG. 1936 Dated....17th.....August.....1936.

Dear Sir,

With reference to your D.O.letter No.D 1343 of even date, I write to inform you that I shall meet the Second Member in his Chambers tomorrow the 18th instant at 3.30 p.m.

79) For perusal
Ch. Secy 17.8.36

Yours Sincerely,

80) Secy. 17.8.36 81)

TO

K.Subba Rao, Esq., B.A.,
Assistant Secretary,
General & Revenue Secretariat,
Bangalore.

82) P. A to II member with NSA Compliments.
18/8/36 83) Submd CCB 18/8

ltr 18.8.

NOTE—Contn. Sheet.

Scheme of Fruit Cultivation in Mysore State

17)

898 J 9.10 J 971

Q G File No. 6J of 193 5

General and Revenue Secretariat

Letter No. 353 dated 21-8-31 from the Deputy
Govt Juniors forwarding a programme & Scheme
and a revised Scheme in connection with
the fruit cultivation in the State ~~of Travancore~~
by the Imperial Council of Agri Research
8a) submitted with reference for perusal & orders
Ans by 21/8/36 8b) for perusal in the first
instance

(Second Member) 21.8.36

RECEIVED BY THE SECOND MEMBER OF COUNCIL. 21 AUG 1936 NO. 1345

8b) Sec
27/8/36
MR
24/8

8c) The revised Scheme submitted by the Deputy
Q.G. in Consultation with Mr Krumbiegel involves
a total gross expenditure of Rs 94500/- by the
Govt of Mysore against a grant of Rs 46500/- by
the Imperial Council of Agriculture Research for
period of five years. Deducting the value
of buildings now at the site which are proposed
to be used for the Experimental Station, the net
amount involved is Rs 59500/- of which a sum
of Rs 47500/- is for non-recurring and Rs 12000/- for
recurring expenditure. Out of this sum of Rs 12000/- a sum
of Rs 5000/- is provided for Leave & Travelling Allces
& Provincial Inspection, which if the I.C.A.R do
not meet, will have to be borne by the Mysore Govt.
Govt 8d) Besides this there is the Scheme of marketing

Scheme of Fruit Cultivation & Research in Mysore State

971

Serial No.

the process of the Experimental Station, which comprises of the Erection of a Cold Storage, a Packing shed, Grading equipment, Auction Room etc. This expenditure will naturally fall upon the Mysore Govt alone as it is doubtful whether the Imperial Council will contribute to this part

89) The Govt reports that the sale proceeds realised from the working of the Fruit Scheme (perhaps after the fifth year) will have to be distributed at the end of each year between the Mysore Govt and the Imperial Council of Agricultural Research in proportion to the Capital invested.

90) Finance Department will have to be consulted on the outlay proposed for the Scheme

Submit for orders

to C&G.

11/9/36 91) The scheme involves a net-expenditure of about Rs 60000/- on the part of this Govt in the next five years. It is to be noted that the recurring charges given on page 2 of the App A are for 5 years. The non-recurring expenditure to be borne by this Govt is Rs 47,500/- and nearly the whole of it will be required next year if the scheme is sanctioned. Rs 15000/- provided for acquisition may be an under-

NOTE—Contn. Sheet.

94) Agr 60 Fruit Research Scheme
in hyderabad 0 √1760

File No. 65 of 1935 — General and Revenue Secretariat

estimate. When the scheme is launched circumstances may arise which cannot be foreseen now and which may necessitate further expenditure not provided for in the present estimate. It should be noted that the Imp. Council of Agri. Research do not propose to contribute any thing more than Rs 46.20.0 = at any rate, in the first five years.

92) If the scheme is viewed with favour, it will have to be considered regarding funds

by Ch. Secy 14.9.36 — p/case

a/s.

93) Please discuss with me, with spl. reference to the future of the scheme when the subvention period is over.

MMS 17/9

by

17.9.36

95) Mr. Jagannadh has offered his criticisms on the schemes. Please put up a draft letter to the Expert asking him to further examine the two schemes in the light of these criticisms and submit a report in consultation with Dr. Basu.

9.10.36

SECRETARY
16 SEP. 1936
22/9/36

970 / 1760

First Research Scheme

General & Revenue Secretariat. File No. 6 J of 1935 [App. F. III–2] 20

Serial No.

96) Draft Do. Lrbs as directed
Sd CB
9/10/36

97) Fair draft
Ly
10.9.36

98) Fair draft Lrbs as directed
Sd CB.
10/10/36

99) Ch. Secy Ly
10.10.36

100) For perusal
MS
11/10
2nd member)
Ly
12.10.36

TYPING SECTION. 10 OCT. 1936 GENL & REV. SECT.

10 OCT. 1936

SECOND MEM. 12 OCT. 1936 No. 2665

101) The draft may issue
It is better to discuss the points raised with the Mess concerned and with Mr Krumbiegel so that the points of doubt and difference may be cleared without for the correspondence
MS
12/10/36
MS
Ly
13.10.36

102) MS
Issue & submit.
MS
13/10

TYPING SECTION. 15 OCT. 1936 GENL

Letter No 2722 dated 19-10-36 to the Supdt Gayaforms forwarding a copy of letter from Mr Jawaraya in the matter and requesting him to further examine the question in the light of remarks of Mr. Jawaraya in consultation with Dr Badami

103) Resubmitted with reference to Para 102 above
Sd CB
20/10/36
Lrbs may be put up after the return of the Chief Secy from Mysore
Ly
20.10.36

Sd CB 3/11/36

NOTE—Contn. Sheet.

GEN. & REV. SECRETARIAT 3 OCT. 1936 DEVELOPMENT BRANCH

WD 70—GBPM—60,000—13-8-31.

Fruit Research Scheme in Mysore
1760

21)

G.G. File No. 65 of 1935

General and Revenue Secretariat

105 Refer para 102
Ch. Sec'y 6.11.36

(17th - 3 P.M.)

106 As per instructions 6 NOV. 1936
the following officers have been
requested to attend the meeting in
the Dewan's Council Chambers on
the 17th inst at 3 P.M.
Mr. G. H. Krumbiegal,
H. C. Jawaraiah
Dr. K. K. Basavi
Mr. M. K. Seetharama Setti

Mr. Krumbiegal
Mr. Jawaraiah

Ch. Sec'y 14.11.36

107 Issue of notice
11.36.

108 Issued Nos. D.3236-9 dt 14/11/36
Results after issue.
14/11/36

109) Ch. Sec'y 14.11.36

110) 2nd member) MS 16/11

111) DMH 16/11/36

112) A note of discussion at the meeting is placed below for perusal
Ch. Sec'y 20.11.36

2nd member) MS 27/11

20 Nov. 1936

BEGOND ... COUNCIL
S.P. ... 1936
No: 3.4.3/-

Letter No. F241/36-A dated 12/11/36 from Secy I.C.A.R. requesting a reply to Para 4 of his letter dated 9-6-36

Fruit Research Scheme 22)

General and Revenue Secretariat | File No. | of 193 | [App. F. III—2

Serial No.

A note of discussions ~~of~~ and conclusions reached at the meeting held in the Dewan's Council Chamber on the 17th Nov 1936 to consider the Scheme for the development of fruit culture in the State and the utilisation of the grant for research sanctioned by the Imperial Council of Agricultural Research

Present:-

The Dewan,
The Secretary to Govt
Mr G. H. Krumbiegel
The Chief Secretary
The Director of Agriculture
Mr H. C. Javaraiah
Dr K. K. Badami
The Supdt: Govt Gardens

The following is a summary of the proceedings:-

113) Mysore is a fruit-growing country. The fruits for which it was once noted have deteriorated in quality owing to haphazard

NOTE—Contn. Sheet.

WD 0417—GPE—30,000—8-9-36

23)

grafting and want of expert advice and guidance. Guava and mango may be cited as instances. We must make our people fruit-minded, and fruit growing should be organised and expanded in a systematic manner. The dept must do more intensive and extensive work in fruit culture in the fields of botan experiment and demonstration. Hybridisation or experiments in seedlings should form an integral part of the scheme of research, the object being the evolution of varieties of apples and other fruits suited to the soil and climate of our country.

114) For the foregoing reasons and also because this Govt was committed to work the scheme sanctioned by the I.C.A.R, it was decided to accept the grant given by the Council and start a Central Research Station in the State. The experiments need not be confined to apples only. Miscellaneous fruits such as

Serial No.

peaches, sapodilla, pine-apple, lime etc may also be included. A few plants of each kind may be grown in the farm in order to make it thoroughly representative

115) As regards the location of the Station the relative merits of the two alternative sites which are available were considered. The one is the plot of land under the Siddapur Tank near Lalbagh and the other, the land under the Hesaraghatta Tank opposite the Rest-House. The advantage of the Siddapur site was its nearness to Bangalore which renders possible close and continuous supervision on the part of the Superintendent G. F. In every other respect however, it suffers in comparison with the Hesaraghatta site. The soil is no doubt good, but not so fertile or dependable as at Hesaraghatta The acquisition would be costly being Rs 500/- per acre as against Rs 200 to Rs 250/- in the case of Hesaraghatta land

NOTE—Contn. Sheet.

WD 0417—GPE—80,000—8-9-36

25)

File No. of 193 | General and Revenue Secretariat

Serial No.

The source of water for the Siddapur land are three wells whose capacity to supply water in adequate quantities especially, in summer has not been tested. Also it is suspected that this water is brackish At Hesaraghatta we ~~to~~ have an assured supply of water The Siddapur land has rather a steep gradient which ~~increasing~~ increases the cost of terracing. A further disadvantage of the situation of this land is that it offers little ~~scope~~ scope for expansion when the Research Station develops in course of time into the Principal demonstration farm and fruit-plants Nursery in the State The site at Hesaraghatta suffers from none of these disadvantages It was therefore tentatively agreed that the Station should be located at Hesaraghatta the final ~~selection~~ selection of the site being left over for decision till after Mr. Krumbiegel inspected the site and furnished his opinion.

Serial No.

After the final selection is made. more accurate data should be collected and detailed estimates worked out for submission to the I.C.A.R. As the State was bearing the entire initial capital expenditure and also a portion of the annual recurring charges it was decided to request the Council to forego the receipts of the farm and allow this Govt. to appropriate them for expenditure on the Station

11b) Incidentally it was observed that there should be a fruit section in every one of the Agricultural and Horticultural farms scattered all over the State. Some fruits thrive better in one locality than in another For this reason ~~each~~ there should be a small experimental station at Yemmedoddi for oranges The Martur farm may specialise in pine-apples. Vine and figs may be tried in the farms at Nandya and K.R.S and guavas, limes, pomegranates &c

WD 0417--GPB—80,000—8-9-86

Schemes of Fruit Cultivation and Research

(27)

Q 9 File No. 65 1760 2572 596 1 (C)

of 1935

General and Revenue Secretariat

Serial No.

in other farms in the Maidan

Ch. Secy) W 20.11.36

(117) The Diwan was also pleased to observe at the meeting that the non-recurring initial Expdr. could be considerably reduced so as not to exceed Rs 35000 and that this amount may be made available as soon as the Scheme is sanctioned.

(118) Mr Kunhigal will be requested to inspect the Hosanghatta land and furnish his views Early. Further action will be taken on receipt of this report.

2nd member) MS 27.11.36

W 27.11.36

(119) Secy W 27/11/36

MS 27/11

W 28.11.36

(120) Draft D.O. to Mr Apte

Sto C 28/11/36

(121) Ch. Secy W 28.11.36

(122) Issued.

MS 28/11

(123) Issued W 28-11-36

Letter No 3626 dated 1-12-36 to Mr. Kunhigal

DEPUTY SECRETARY TO SECOND MEMBER OF COUNCIL 27 NOV 1936 NO 3764

TYPING SECTION GEN. SECTT. 30 NOV. 1936

Fruit Research Scheme in Mysore

2607 / 2897

20

General and Revenue Secretariat — File No. 65 of 1935 — [App. F. III—2

Serial No.

requesting
~~proceeding~~ him to inspect the Hesaraghatta lands and furnish a report

Letter No 1112 dated 2/12/35 from the Ag Labour requesting for a copy of the proceedings of the meeting held in Dewan's Camp chambers on 17/11/35 to enable him to take further action in the matter

124) It is submitted that Mr. Krumbiegel has been requested to inspect the lands at Hesaraghatta and furnish his opinion. Submit for orders whether the note in paras 22-26 may be sent to the Ag Superintendent as requested by him

Sd C.S. 4/12/35

125) It seems unnecessary to send a copy of the proceedings. Please put up draft ~~forwarding~~ stating that the decision reached at the meeting was that Mr Krumbiegel shd be requested to inspect the Hesaraghatta land provisionally selected for locating the Research Station and furnish his opinion as to whether if he ~~shows~~ approves of the site further details of the scheme shd be worked out and submitted to Govt

by 4.12.35.

126) Draft reply to ~~the~~ director

Sd 5/12/35 by

127) Issued by 5.12.35

NOTE—Contn. Sheet.

WD 0417—GPB—30,000—8-9-36

29 2897 J 385

ff File No. 65 of 193 8. General and Revenue Secretariat

Serial No.

Do letter No D 3792 dated 9-12-36 to the Supdt of Industries intimating the action taken

GEN. & REV. SECRETARIAT Ly A
15 DEC. 1936
DEVELOPMENT BRANCH 15/12/36

(28) No further communication has been received from the Supdt., Govt Gardens, nor a reply from the Commissioner so far orders are solicited whether a reminder may issue in the matter

CC. 15/1/37

(29) Ch. Sec'y Ly 15.1.37.

(30) h/s. Please speak to me. MK 16.1.37

GOVT. OF MYSORE 16 JAN 19

(31) It has been decided to dispense the Site on the 23rd morning. A note is placed below for perusal

Ch. Sec'y Ly. 20.1.37

(32) Two draft D.O. letters to Messrs Nawabbs Mohamed Nanjundaswamy, and N. Subba Rao & Dr. Bhatawadekar enclosed as directed

CC 22/1/37

(33) Issue at once

D.O. Ly 21.1.37
Director's D 4830-6 dated 22.1.37
Memo No 4835-6. to the Chief Engr & Dr of Agri.

(34) The sites for the Fruit Research

Serial No.

Station were inspected by the Dewan and the Secretary Member on the 23rd morning. It is understood that the site marked A in the sketch was approved. This site is situated in the Jodi village of Aivara Khandapura. Dr Badami told me that the work on the station has to commence early in May 37 soon after the 'mungar' rains set in. It is therefore necessary to take immediate action to acquire the lands required for the site. If approved the Dy. Commr will be requested to send up proposals for acquisition in consultation with Dr Badami.

13) It is understood that it was decided to construct the office, stores, Laboratory and the quarters for the staff on the station itself. It is therefore necessary to know what the cost of constructing these buildings would be. The Ch. Engr may perhaps be addressed on the subject. Rs 38000/ shown in Statement II represents the

NOTE—Contn. Sheet.

WD 0417—GPB—30,000—8-9-36

Fruit Research Scheme

31 3855

File No. 65 of 1935 | General and Revenue Secretariat

Serial No.

Value of the old buildings available at Saldevanahalli, the idea being to make them fit for occupation by spending Rs 3800/- on alterations and repairs

(136) Dr Badami is drawing up a detailed technical programme of work This has to be submitted to the Imp Council of Agri Research for their approval before starting work He has promised to send it up to Govt in a week's time

(137) Dr Badami says that the receipts of the Station during the first five years may be safely assumed at Rs 20000/- The figure Rs 8400/- referred to in the note was it seems worked out & not by him but by Mr Jaswiah

Ch Seq 26.1.37

138 Please put up a draft order on the above points for consideration.

MS 27.1.37

27. JAN. 19 GOVT. OF MYSORE

139 Draft G.O. Submitted for Consideration 28-8-2-37.

28.1.37

3745

Fruit Research Scheme in Nigeria. 32

General and Revenue Secretariat | File No. C.C.65 of 1935 | [App. F. III—2

Serial No.	
3317	140 Urgent; Typed draft- Ly 10.2.37
	141 Typed draft- Submd 10.11.2.37. Ch. Secy) Ly 11.2.37
	142 Draft rdn is Subd for Consideration in 2nd meeting) MS 11/2 Ly 12.2.37
3267	143 Noted 13/2/37 Dewan) MS 13/2 Ly 13.2.37
	144 As this is the latest Scheme it may be Submd to the Assembly. Spr 13/2 MS 13/2 Ly 15.2.37
	145. D.S.N. Submd 15.2.37 Typed draft- Ly 15.2.37
	Typed D.S.N. Submd 16.2.37 Ch. Secy) Ly 16.2.37 Dewan) MS 17.2.37 Ly 17.2.37

OFFICE OF THE SECOND MEMBER OF COUNCIL 24 FEB 1937 NO 5.8.22

TYPING SECTION 16 FEB 1937 GENL & REV SECTT

NOTE—Contn. Sheet.

WD 0417—GP13—80,000—8-9-36

B

Submitted to His Highness.

These papers relate to the starting of a Fruit Research Station in the State. Mysore possesses certain local and natural facilities for fruit cultivation and fruits of many varieties grow better on the Mysore plateau than in most other parts of India. A good deal of preliminary work in fruit culture has already been done by the Horticultural Department but it is felt that the work should be continued in a systematic manner on a well equipped experimental orchard where the various technical problems connected with fruit culture could be taken up for detailed investigation and study.

With this end in view a fruit research scheme was drawn up in 1934 by the Superintendent, Government Gardens, and submitted to the Imperial Council of Agricultural Research for sanction with a request for financial assistance to the extent of Rs.88,880/- out of the total estimated expenditure of Rs.1,83,880/-, in the first five years. The Council sanctioned the scheme with some modifications but have limited the subvention to Rs.46,200/- spread over a period of five years.

It is proposed to sanction the scheme and start the Research Station at Jodi Aivarakhandapura village close to the Hessarghatta Reservoir where a suitable site has been selected for the purpose.

A draft Government Order conveying administrative sanction to the scheme and embodying the general lines on which it is to be worked is submitted for the gracious approval of His Highness.

Mirza M. Ismail

DEWAN.

Bangalore,
18th February 1937

Record of Cases submitted for the Orders of His Highness the Maharaja.

Subject.

Scheme for starting a Fruit Research Station in the State.

C hay
Mg
22.2.37

MS
22.2.37

327

Order.

~~KRW~~
19/2/37

General and Revenue
Secretariat.

35

374

SUBJECT:— Scheme for starting a Fruit Research Station in the State

(*)

31. All urgent or confidential files returned with His Highness' orders may in the absence of instructions or indications to the contrary, be ordinarily circulated to the Members of Council for perusal after the issue of orders.

33. The Secretaries concerned should see that orders in the cases referred to above are issued at once and that the files are returned immediately after to the Chief Secretary for circulation to the Members.

34. In all other cases, the files will first be circulated to the Members of Council at Headquarters and then sent to the Secretariat concerned for the issue of orders.

Circulated to Members of Council for perusal of His Highness' orders before/~~after~~ issue of orders. (*Vide* Rules 31, 33 and 34 of the Subsidiary Rules for the conduct of business of Council in the Manual of Council Rules and Procedure.)

Chief Secretary to Government.

Through the Secretary to Government,

..... Department.

FIRST MEMBER OF COUNCIL.

5-2-37 25/2

SP 24/2

SECOND MEMBER OF COUNCIL. (On Deputation)

G. G

MMS 25/2

Issue 26.2.37

TYPING SECTION,
25 FEB 1937

NOTE.—Contn. sheet.

WD 1170—G.P.B.—1,000—24-12-36

3855 4820 36

Serial No.	
9	D 5760-64 dt 27-4-37 To Superintendent Govt Gardens Director of Agriculture in Ch Engineer Mysore Sy. Comm Bangalore in Comptroller of Govt Accords Sanction to the Scheme as modified by the Imperial Council of Agricultural Research. and requests him to work out in Consultation with the Director of Agriculture full details of the Cost of initial equipment and the amount required for recurring expenditure over and above the sum sanctioned by the Council and submit a report to Govt early
10	D 6076 dt (3.3.37) To Secretary, Imperial Council of Agricultural Research New Delhi states that Government have accepted the Scheme as modified by the Imperial Council of Agricultural Research and have called for a detailed Program of work to be carried out in this connection

For B Nil 1-4-37.

DEVELOPMENT BRANCH

By for B Nil 14-4-37

SECRETARIAT
17 MAR. 1937
DEVELOPMENT BRANCH

WD 0417—GPB—30,000—8-9-36

A SCHEME FOR RESEARCH

IN

FRUIT CULTIVATION IN THE MYSORE STATE

BY

H. C JAVARAYA, L.AG., F.L.S., F.R.H.S.,

Superintendent, Government Gardens in Mysore.

BANGALORE:

PRINTED BY THE SUPERINTENDENT AT THE GOVERNMENT PRESS

1934

DEPARTMENT OF HORTICULTURE

MYSORE STATE.

A Scheme for Research in Fruit Cultivation in the State.

PART I

INTRODUCTION.

The following introductory note explains the conditions in the Mysore State which have to be considered in connection with the Scheme for Research in Fruit Cultivation which is dealt with in Part II of the note.

Natural Conditions.

1. *Situation.*—The Mysore State is situated in South India between the eastern and western ghats. It is a plateau lying between 1.36′ and 15.2′ North latitude and 74.38′ and 78.36′ East longitude. The sea is at a distance of about eight miles from the farthest point from the State on the west, about 120 miles on the east and about 250 miles on the south.

2. *Area.*—Mysore has an area of nearly 19,000,000 acres or 30,000 square miles. There are over 7,000,000 acres under cultivation out of which over 1,100,000 of acres are under irrigation; (Canal irrigation, 165,307 acres; tank irrigation 577,364 acres; well irrigation, 92,681 acres; and other sources 296,590 acres).

3. *Natural Divisions.*—The country is naturally divided into two regions of unequal area. The smaller part consists of the hill country on the west and is called "Malnad" meaning the country of the hills, and the larger area on the east is called "Maidan" or the plains. The former covers the major portion of Hassan, Kadur, and Shimoga districts, and contains magnificent hills and forests and receives heavy rainfall in the south-west monsoon. The latter covers Bangalore, Kolar, Tumkur, Chitaldrug and Mysore districts. This division of Mysore into "Malnad" and "Maidan" by district units is not

however quite correct. Parts of Mysore District are just as much Malnad as the rainy tracts of the three districts described by that name; and in these three districts themselves a considerable area is really Maidan, sharing neither the rain nor the forest and hill of the malnad area. In the true malnad a very small part of the whole area is cultivable. The Maidan country receives only a small fraction of the rain of the south-west monsoon supplemented by a still smaller fraction of the north-east monsoon. There is no high forest here and a great part of the land is cultivated. The soil is generally fertile and except in one belt of the country in the north-east, the rainfall, though not heavy, is still sufficient to support crops on fields and trees in the open country. The water received in the rains is stored in tanks in valleys in the plains to support wet and garden cultivation.

4. *Elevation.*—The general elevation of the country above the sea level is from 2,000 to 3,000 feet, the lowest point being in Chitaldrug district and the highest in Kadur district.

5. *Climate.*—The climate of Mysore is mild and equable. The year is divided into three seasons, namely Rainy season (from June to November), Cold season (from December to February), and Hot season (from March to May). The mean temperature in the warmest month ranges from 83°F to 87°F and in the coldest month from 62°F to 67°F. The temperature during the day rarely exceeds 100°F during the hottest part of the year and it has fallen below 50°F in very few winter nights. The atmosphere is neither very humid nor very dry, the mean value of the relative humidity in the wettest and the driest months being 86 and 63 per cent respectively.

6. *Rainfall.*—Mysore enjoys the benefits of both the monsoons, the south-west and the north-east, the first opening usually in June and the second in October.

In the Maidan region the mean annual rainfall is 24 to 31 inches spread over 49 to 58 days and over half of the annual average falls in the months of August, September and October; from December to March little or no rain is gauged, the total for these months being only one inch..

The Malnad is the wettest part of the State having an annual normal rainfall of 73 to 100 inches falling on

an average on 89 days though in portions of Koppa and Mudigere the annual rainfall is as much as 300 inches Heavy and practically continuous rain falls from June to September and nearly one-third of the annual rainfall is recorded in July. The districts stand in the following order according to their rainfall. (1) Kadur 78 inches (2) Shimoga 64 inches, (3) Hassan 48 inches, (4) Kolar 31 inches, (5) Bangalore 30 inches, (6) Mysore 29 inches (7) Tumkur 27 inches, (8) Chitaldrug 26 inches.

Soil.—The soils of Mysore vary from black cotton clay to light sandy loam, the main type of soil being deep red loam which is well suited for the cultivation of many kinds of fruit trees.

The ideal climatic conditions favourable for general fruit culture are :—(1) Freedom from extremes of low and high temperature, (2) an abundance of sunshine and (3) Summer atmosphere with a low percentage of humidity. These conditions exist in many parts of the Maidan districts where fruit plants like Apples, Peaches, Grape vines, Mangoes, Guavas, Pomegranates and Figs grow well. In the Malnad districts where there is heavy rainfall and humidity in the air Citrus fruits, Bananas and Pineapples grow.

Fruits and vegetables, both indigenous and foreign, generally do better on the Mysore plateau than in most other parts of India.

Artificial Conditions.

The following facilities for the development of Fruit Culture are available :—

1. A Government Department which has dealt with Fruit Culture for over a century and which gives help and advice to orchardists.
2. Government help with Fruit Loans.
3. Cheap Electric Power for pumping installation and service by the Government Electric Department.
4. Transport facility. Important centres are connected by rail and road with other parts in and outside the State.
5. Marketing facilities.
6. Skilled Labour.
7. Private enterprise, as can be seen from the large number of orchards opened in recent years.

As early as in 1856, Hugh Cleghorn, Conservator of Forests, Madras Presidency, recommended Bangalore as the most suitable place for Horticultural experiments. In his report dated 30th August 1856 to the Madras Government, he states as follows:—

"There can be no doubt that the climate is highly favourable and the soil capable of producing the best description of many vegetable products. Bangalore is much better suited for Agricultural and Horticultural experiments than either Ootacamund or Madras and from its central position and intermediate elevation the finer kinds of vegetables and better sorts of graft trees may be disseminated with great success to the neighbouring ranges of hills such as Bababudans, Ramanmalai, Shevarai and Palnis."

The climate of Bangalore which is most centrally situated is sub-tropical as compared with the tropical climate of Madras and the distinctly temperate condition of the Nilgiris, and practically all kinds of fruit plants growing in temperate climates can be grown here, besides almost all the sub-tropical and tropical fruits.

Brief History of Departmental Work.

Horticulture received much impetus after the establishment of the Agri-Horticultural Society at Bangalore in 1836, nearly a century ago, but more especially after the formation of the Lal-Bagh as Horticultural and Botanical gardens in 1856 after the Society ceased to exist. A profitable means of livelihood was opened to local gardeners some of whom have set up as Florists and Seedsmen and have been doing good business for many years.

With the limited funds at the disposal of the Department, it has done work in the trial of fruit plants, their propagation and distribution in many places.

A list of fruit trees introduced by this Department since 1860 is attached to the Note. In 1897, the outbreak of the American Blight or Woolly Aphis caused considerable loss to apple growers and many varieties which were under trial and cultivation were destroyed by this pest. The Department revived the cultivation of apples since the year 1914 by the importation of new varieties grafted on disease resisting stock from Australia. About 100,000

of Australian fruit plants were distributed during the past seven years. Altogether over 200,000 of plants have been supplied to private orchardists. A Fumigatorium was constructed at Lal-Bagh to fumigate the incoming and outgoing plants, and the Government of India have exempted the Superintendent of Government Gardens from getting imported plants fumigated at the ports of entry. The Government of His Highness the Maharaja of Mysore have sanctioned the free supply of fruit plants raised by the Horticultural Department to raiyats for being planted in their backyards and a Spraying Staff to demonstrate the methods of treating various plant diseases and pests. Many private growers are now adopting improved methods of cultivation and attend to the systematic spraying of plants.

Further impetus was given to Fruit Culture by the Mysore Economic Conference and a survey of Fruit Cultivation in the Mysore State was done through the agency of this Department which suggested the opening of an Experimental Orchard, a Fruit Nursery and an Horticultural School and the appointment of Horticultural Inspectors. The School was opened and the Horticultural Inspectors worked for some years, but later the School had to be closed and the number of Inspectors reduced from eight to three on account of financial stringency.

In recent years electric power is being supplied at cheap rates and pumping installations are put up for raiyats by the Electric Department, the cost being recovered in small instalments. A Scheme for the grant of Fruit Culture loans, somewhat on the lines of Takavi Loans has also been under operation for many years. With these facilities and with the help and advice given by this Department a number of gardens are springing up.

Exports and Imports.—The statistics available are not very accurate but the following figures give an idea of the extent of the industry. There are about 200,000 acres under fruit and vegetables. There is a fairly large export trade to Madras, Bombay and Hyderabad. The total exports of Mangoes, Grapes, Oranges, etc., in the year 1930-31, amounted to 4,96,506 maunds valued at Rs. 52,34,313 while the imports amounted to 2,57,412 maunds valued at Rs. 27,02,826.

Fruit Culture in Mysore and Scope for its Extension.

The Mysore State is well-known for its Apples, Citrus Fruits, Mangoes, Figs, Plantains, Pomegranates, Guavas, and Papayas.

1. *Apples.*—This is one of the important fruits grown commercially at Bangalore and there is great scope for its extension. Rome Beauty, Cox's Orange Pippin, Jonathan and Cleopatra varieties have been found to do well here. There is hardly any crop which is as profitable here as the Rome Beauty Apple. The Horticultural Department alone has distributed 100,000 of Apple plants to growers. Besides these private nurseries have sold a large number. The growers have also raised grafts in their orchards. The average net income is Rs. 1,000 per acre from two crops in the year. Some crops have fetched Rs. 4,000 to Rs. 6.000 per acre. The Horticultural Department has imported five varieties of vigorous growing Apple Stocks (vegetatively propagated) from East Malling Research Station, England. These will be tried under Stock experiments.

2. *Citrus Fruits.*—Citrus fruits are grown in Kadur Hassan and Bangalore Districts. The famous "Loose Jacket" oranges grown at Yemmai Doddi in Kadur District are exported outside the State. Lime is largely grown in Bangalore District and each tree produces about 1,000 fruits yearly on the average, giving an income of Rs. 5 per tree. The Pumelo can be grown easily but the delicious variety is almost a rarity. The finest fruits are grown in Devanhalli in Bangalore District, a tree producing about 200 fruits and each fruit being sold at As. 8 to Re. 1. Our markets import large quantities of Citrus fruits such as Mozambique oranges from Bombay, Nagpur oranges from Nagpur and Grape fruits, Lemons, and Washington Navel Oranges from South Africa, California and Australia.

Imported varieties of Oranges such as Washington Navel and Valencia Late are grown by some enterprising orchardists successfully around Bangalore. These plants were first imported from Australia and tried by this Department and then plants were supplied to fruit growers to whom the methods of growing were demonstrated. There is a great scope for their extension and a good export trade can be built, and the dumping of the South African,

Australian and American fruits into the Indian market can be checked.

3. *Grapes.*—At present this fruit, a black variety, is grown in small patches chiefly round about Bangalore. Though the quality is inferior to that of imported Grapes a considerable quantity of this fruit is exported. The income derived from each vine is from Rs. 10 to Rs. 30 from two crops in the year. Superior varieties such as Muscat of Alexandria, Black Hamburg, Dodrelabi, etc. are grown chiefly in the Government and Palace gardens. There is a great scope for the introduction of new varieties in many parts of the State. In certain seasons Kabul grapes are largely imported now.

4. *Mangoes.*—Particular areas in certain districts are well-known for the superior quality of mangoes, for example, Seringapatam for Badami, and Tumkur and Bangalore for Raspuri fruits. Neelum from Chittoor, Mulgoa from Salem and Alphanso from Bombay and Jehangir from Andhra Districts in Madras Presidency, are imported. The area under Mango is over 15,000 acres in the State. About 100 varieties of Mango plants have been imported from different parts of India and are being grown in Bangalore.

5. *Figs.*—The cultivation of Figs is confined to some parts of Bangalore and Seringapatam. There is scope for its extension in other dry districts.

6. *Plantains.*—The State imports large quantity of plantains valued to the extent of over ten lakhs of rupees. Though the Nanjangud "Rasabale" and the Bangalore "Rajabale" are famous, yet the quantity grown is very limited. Banana is one of the easiest grown fruits and the area under it should be increased, so that even the poor people may have fruit in their diet.

7. *Pomegranates.*—Though this fruit can be grown in many places, the cultivation of good varieties is confined to few localities such as Chintamani in Kolar District, Madhugiri in Tumkur District, and Jaraganahalli in Bangalore District. Each tree yields 100 to 200 fruits, large in size and beautiful in colour, and the fruits sell at four to eight annas each.

8. *Guavas.*—This fruit plant thrives in almost any soil and requires no great care in its cultivation. Local varieties are grown all over. A superior variety from Allahabad has been introduced and its cultivation around Bangalore is spreading widely.

9. *Custard Apple.*—This plant which can be grown even in arid and rocky areas where few other fruit trees would thrive, is a useful one. The Cherimoyer (Anona Cherimolia) which grows on higher elevations has yet to be tried. Five varieties are being grown in the Government Botanic Gardens at Bangalore.

10. *Papayas.*—There is a good deal of scope for its cultivation all over the State. Seeds of superior varieties are being distributed by this Department. Papaya flourishes almost anywhere except in water-logged areas and yields fruit within a year. Large areas may be planted for extracting juice for the preparation of papain.

11. *Pineapple.*—Though this fruit could be successfully grown all over the State, yet fruits are being imported from Travancore and Singapore. Some growers are successfully cultivating the Queen Pine-apple which has the finest flavour in Bangalore district. Five new varieties are under trial in the Government Botanic Gardens, Bangalore Pineapple is found to be a good source of iron, copper and manganese and it is considered to be a cure against Pyorrhœa, dental decay and Beri-beri disease.

12. *Jak.*—The Jak is abundant in Malnad and the cultivation of good types might be extended. There are good, bad and indifferent fruits, and seeds from only good fruits should be selected for propagation. This is being done on a small scale in the Government Botanic Gardens, Bangalore.

13. *Sapota or Sapodilla.*—Though this is one of the tropical fruits, it is hardly known to the public in the State. This tree is successfully grown in the Government Botanic Gardens and in the Palace Gardens in Bangalore. It is popular in Bengal and in Telugu districts of the Madras Presidency. It is easy to grow. Good varieties have to be imported and their cultivation popularised.

14. Other fruit plants which are grown in the Botanic Gardens and which are being spread into the districts are Loquot, Butter fruit, Raspberry, Strawberry, Brazilian cherry and Litchi.

PART II

FRUIT RESEARCH SCHEME.

The natural and artificial conditions favourable for fruit cultivation in Mysore State, the present position of indigenous and imported fruit trees and the scope for the extension of their cultivation and the progress of work in the introduction and development of fruit plants in the Horticultural Department of the State have been dealt with in the introductory note. While a good deal of work has been done in fruit culture in the past, it is a painful fact that the work could not be done in a systematic manner for want of an experimental orchard equipped with necessary men and materials for conducting experiments and noting the results. The scheme could not be taken up on account of financial stringency during recent years It is admitted that both natural and artificial conditions for fruit cultivation are available in the State; it is admitted that fruit cultivation is a very profitable industry, provided the grower has got correct knowledge of the work; and it is further admitted that fruit is an important article of diet and that adequate quantity is not consumed in our daily food. Taking all these facts into consideration, the logical conclusion would be that every possible attention to the development of the fruit industry on sound and systematic lines should be paid. This however cannot be done unless there is an experimental orchard equipped with the necessary buildings and machinery and suitable staff, as the problems to be tackled, in connection with fruit cultivation, are numerous. Although much spade work has been done in the past, yet it has so far not been possible to take up the work seriously on a large scale on a permanent basis. The time has now come for undertaking it on systematic lines in right earnest with the financial assistance of the Imperial Council of Agricultural Research. As it has already been said that Mysore has suitable soil and climatic conditions for cultivation of fruits, both indigenous and foreign, it is proposed to begin research work on Apples, Oranges, Grapes and Mangoes, fruit crops of All-India importance in the first instance. The contribution from the Imperial Council of Agricultural Research for the development of fruit cultivation would, therefore, be useful not only to Mysore but to the whole of India, while the value of the work done will be of world-wide importance.

The main objects of the orchard would be:—

1. To introduce superior varieties.
2. To conduct various experiments connected with Fruit Culture as explained in detail later on.
3. To spread knowledge of names and characters of various kinds and varieties suitable for different local conditions.
4. To serve as a training ground for students of Horticulture and also for arranging Short Courses to private people in planting, pruning, spraying, grafting, etc.

Situation of the Experimental Orchard.

The experimental orchard should be located in an easily accessible spot in a district where fruit growing is already in existence so that the benefits of the station be readily taken advantage of by fruit growers Bangalore which is conveniently situated in South India is undoubtedly the best place. It is already a large fruit growing district and the number of kinds of fruit trees, both tropical and sub-tropical, which can be successfully grown is larger here than in other districts. It is the only centre where there are private commercial nurseries and orchards. There is scope for the cultivation of different kinds of fruit plants requiring different situations and soil conditions. There is trained labour available. It is the head quarters of the Horticultural Department which has dealt with fruit work for a century and which has already opened a small fruit nursery It is also the head-quarters of other Departments, such as, Agricultural Co-operative, Industrial and Forest, while, the Indian Institute of Science is also situated here.

Technical Aspect.

(1) The foremost necessity is an intensive study of the fruits, such as, Apples, Grapes, Oranges and Mangoes which are of All-India importance and which are largely exported. It is, therefore, proposed to begin work on these fruit crops. There is also a vast field for the introduction of new varieties of fruits, such as, Butter fruit, Allahabad Guavas, Pine-apple, Litchi, Sapodilla etc., which may be grown to demonstrate the possibility of easy cultivation of these fruits. Again a great number of plants are imported from Australia, but the cost is high and the stocks are not suitable in all cases, while plants locally raised are often inferior. So the supply at low cost of fruit trees suitable to different localities is a pressing need.

To attain these objects, the following important problems have to be taken up for investigation: (1) Selection of suitable stocks and studying their influence on different scions, (2) Introduction of new varieties, (3) Experiments in the different methods of propagation, (4) Manurial experiments, (5) Study of plant pests and diseases and finding out effective remedies, (this problem would be studied in the experimental as well as local orchards, the immediate problems for consideration being investigation into the Collar rot disease of apples, and the Yellowing and Die-back diseases of Citrus plants,) (6) Experiments in planting distances, irrigation, and pruning, (7) Study of flowering of plants in relation to climatic conditions, (8) Marketing problems, (9) Utilisation of surplus fruits, and (10) Maintenance of proper crop records. The problems to be taken up for investigation in the Fruit Experiment Station are dealt with below in detail:—

1. *Stocks.*—This is a very important section in the work concerning the development of fruit culture. Most of the budded or grafted trees are at present being raised in Bangalore round about the Botanic Gardens, particularly in Siddapur village. The Nurserymen have not studied the suitability of the various stocks. The Gardens Department has imported five varieties of Apple stocks, propagated vegetatively, from East Malling Research Station. Similarly, other stock plants should be imported, and also local stocks which, in some cases, are very good should be collected and studied, keeping in view their powers of resisting diseases and their suitability for different kinds of soils

2 (*a*). *Introduction of New Varieties for trial.*—The average private grower cannot obviously undertake this work. A large number of varieties have to be introduced from different parts of the world and tried under local conditions and those that prove successful should be propagated and distributed. There is a great scope for the introduction of new varieties of Oranges, Apples, Grape vines, Pine-apples, etc., and this work is very important in the development of fruit culture. Correct records of the yields and the quality and other characters of each individual plant will, of course, be maintained which ought to prove of great value not only in assessing the nature of each plant and variety but also for purpose of deciding which to propagate with advantage.

(*b*) *Pollination and Fertilisation.*—It is not generally understood that certain varieties of fruit plants such as Apples yield larger crops when fertilised by other varieties. This is a problem about which very little is known in India, and it is of great importance that very careful experiments should be conducted with a view to obtain knowledge on the subject.

3. *Propagation of plants.*—To obtain reliable plants true to type vegetative propagation is necessary. Though grafting and budding is practised locally, budding is not being largely adopted. The best method of vegetative propagation required for each kind of tree has to be investigated. It has to be ascertained whether or not the System practiced in Europe of dwarfing the trees, by grafting on stocks of different allied species, might not answer well here. The advantages are that the plants bear early and they take little room. It is necessary that fruit growers should plant recognised varieties to get profitable crops. Mixing varieties is not desirable in a commercial orchard except to the extent that it is necessary for pollination.

Work on the vegetative propagation of several indigenous fruit trees which are now generally raised by seed has also to be undertaken.

4. *Breeding of New Varieties.*—In addition to the above, breeding work on a few of the important fruits like Apples, Oranges, and Mangoes will be undertaken by the raising of the seedling plants and by cross fertilisation. Trial and selectoin work on these seedlings will follow and will be based on the performance record of these seedlings in respect to all desirable characteristics including disease resistance. Propagation by the best strains will next be undertaken both for the Station and for the supply of plants to private growers. Very important and strikingly superior varieties of several fruits have thus been originated in western countries and results of a similar character may be expected from this work on this Station also. The main object of seedling trial would be to raise a number of seedlings quickly and to select varieties which would show outstanding characters or would show their suitability for use as parents. The breeding work will also give clue for the selection of stocks and scions useful for vegetative propagation.

5. *Manuring.*—Sheep manure is chiefly applied to most of the fruit trees. It is difficult to obtain it in large

quantities and the little that can be had is sold at prohibitive prices. Experiments should be conducted to see what manures and in what quantities they are most effective and economical.

6. *Insect Pests and Fungus Diseases.*—Insect Pests are responsible for heavy losses in orchards in all parts of the world and the Mysore plateau is not an exception to this. Among the common pests mention may be made of Stem borers, Leaf-eating Caterpillars and Beetles, Scales, Green bug, Mealy bug, Plant lice, White ants and Fruit flies. Though the Government Gardens Department is paying special attention to the treatment of these pests with the help of a permanent Spraying Staff, yet a great deal of investigation has to be carried on to find suitable insecticides, sprayers and dusting machines worked by hand and power. Correct data regarding the cost of spraying economically has to be found out.

(*b*). *Fungus Diseases.*—The following are the important Fungus diseases that cause damage to fruit trees in the State. (1) Mildew, (2) Canker, (3) Root rot, (4) Collar-rot, (5) Leaf curls, (6) Fruit rot, (7) Die-back and (8) Crown gall. Work on the lines indicated in connection with the treatment of insect pests has to be carried on and the results made known to fruit growers.

The above mentioned six problems will be chiefly taken up for investigation in the Experimental Orchard. The following ones would be attended to as circumstances arise.

Planting Distances.—Reliable data of the distances required for each kind of plants to produce the maximum yield per acre without affecting the health of the plant has to be gathered, though certain knowledge obtained from observation of local orchards is already available.

Irrigation.—In localities where fruits grow well, water is not found in too large a quantity so that the right quantity of water required for each kind of fruit tree has to be found out. Over-irrigation is often the prevailing practice and it is one of the causes of the failure of orchards.

Pruning.—The method of pruning varies with each kind of fruit tree and often with each variety of a particular kind of tree. The Grape vine is the only fruit plant which receives a certain amount of pruning here. Other fruit trees are not systematically pruned. Investigations have to be done to see whether artificial wintering

and whether de-foliation of Apple plants as are practised in Bangalore influence the life of the plant.

Thinning of Fruits.—Fruits are not thinned by local growers. Thinning is necessary to get good sized fruits. The extent to which thinning is to be practised under local conditions has to be investigated and demonstrated.

Flowering in relation to Rainfall.—The flowering period of the same fruit plant varies according to the rainfall of a locality. Detail observations have to be made about the periods of flowering of various fruit trees in order to give advice to the growers to raise early and late crops according to the requirements of the various markets.

Grading, Packing and Marketing of Fruits.—In countries such as the United States, Australia, and South Africa where fruit cultivation has advanced, fruits are graded into various sizes and scientifically packed and placed on the market in an attractive manner. Unless Indian fruits are treated in this manner, it is impossible to compete successfully with the imported fruits. Methods of packing and grading suitable to local conditions have to be evolved and demonstrated to fruit growers. Just recently, the Mysore Fruit Growers' Association has been formed and it is hoped that orchardists will be greatly benefited by their co-operative efforts.

Keeping Properties of Fruits.—Suitable fruits which will be able to travel long distances and at the same time possess good size, colour and flavour have to be evolved. In the consideration of finding suitable markets this work is of great value to fruit growers.

Preservation of Fruits.—Though the problem of preservation of fruits on a commercial scale is not an immediate one, as we are neither in a position to compete with foreign stuff nor to find a large market for them on account of certain disabilities about which it is not necessary to deal with here, yet a time will come when this has to be studied. For the present there is scope to study this question from a domestic point of view. A good deal of work in bottling of various kinds of fruits and fruit juices has been done by this Department. It is very useful to preserve fruits in their season for home consumption. The work already carried out should be extended and short courses arranged for the benefit of those who grow fruits.

Growing of Inter-crops in Young Orchards.—Orchards generally come to bearing in three to five years after planting trees. Till then, in many a case, the grower has to get an income to maintain himself and his orchard. Therefore, it would be necessary to grow inter-crops, such as, vegetables which will not interfere with the growth of the fruit trees. Investigation has to be taken up to find out the most suitable crops to grow among the various kinds of fruit trees.

Crop Records.—Definite knowledge is lacking regarding the fruiting capacity of different varieties of fruits both indigenous and foreign. It is therefore very necessary to maintain proper crop records of each tree to note the quantity and the quality of the yield and also records of the prices obtained for the fruits for a period of years. These records together with those of the keeping quality will enable us to pick out good varieties and then good trees from which to propagate plants for distribution to fruit growers.

The details of the Experiments are stated below :—

DETAILS OF AREA.

I. **Apples** :—(15 acres)—

1. Experiments in Stocks (10 stocks grafted on two important varieties).
2. Varietal tests (100 varieties).
3. Manurial Experiments.
4. Experiments in Irrigation.
5. Experiments in Pruning and Thinning.
6. Pollination Experiments.

II. **Grape Vines** :—(8 acres)—

1. Varietal tests (25 varieties).
2. Manurial Experiments.
3. Experiments in Training, Pruning and Thinning,
4. Experiments in Stocks.

III. **Citrus Fruits.**—(30 acres)—

1. Experiments in Stocks (10 stocks grafted on 5 important varieties).
2. Varietal tests (25 varieties).
3. Manurial Experiments.
4. Seedling trials.
5. Experiments in Irrigation.
6. Varietal tests of other Citrus kinds (30 varieties.)

IV. Mangoes.—(30 acres).

1. Experiments in Stocks (5 stocks grafted on two important varieties).
2. Varietal tests (150 varieties).
3. Seedling trials.

V. Miscellaneous Fruit Plot.—(17 acres).

Thus 100 acres will be taken up by the Experimental plots and an area of 50 acres will be required for pastures, roads, etc, so that the total extent of the Research Station will be 150 acres.

Financial Aspect.

The value of the contribution of the Government of Mysore for the Research Scheme would be Rs. 95,000 on account of lands, buildings, pumps, fencing, construction of storage tanks, etc., under non-recurring items and maintenance of roads and buildings and the supply of electric power under recurring items as per details given in Appendix A.

The Imperial Council of Agricultural Research is requested to sanction a sum of Rs. 88,880 in instalments distributed over five years. It is hoped that after five years the Orchard would be self-supporting. The income derived from the crops would be utilised for the development of the fruit industry.

The details of Expenditure are given in appendices A, B and C.

H. C. JAVARAYA,
Superintendent,
Government Gardens in Mysore.

Appendix A

Estimate of Cost to be met by the Government of Mysore.

NON-RECURRING CHARGES.

No.	Particulars	Amount in rupees
1	Land	15,000
2	Buildings—	
	Farm Manager's Quarters (1)	5,000
	Assistant Farm Manager's Quarters (1)	3,000
	Quarters for Other Officials	8,000
	Block for Menial Staff	8,000
	Cattle Shed	1,000
	Potting and Grafting Shed	1,000
	Implements and Cart Shed	1,000
	Office and Stores	8.000
	Laboratory	10,000
	Laboratory equipment	5,000
3	Other Items—	
	1. Fencing	6,000
	2. Formation of Drains, Roads, etc.	3,000
	3. Storage tanks	4,000
	4. Pumps with pipe connections	6,000
	5. Bullocks four pairs	1,000
	Total ...	85,000

RECURRING CHARGES.

No.	Particulars	Amount in rupees					Total
		1st Year	2nd Year	3rd Year	4th Year	5th Year	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	Maintenance of Roads and Buildings.	...	...	...	1,000	1,000	2,000
2	Electric Power ...	500	750	750	1,000	1,000	4,000
3	Unforseen Charges ...	1,000	1,000	1,000	500	500	4,000
	Total ...	1,500	1,750	1,750	2,500	2,500	10,000
	Grand Total ...	...	...	...	...	...	95,000

Appendix B

Estimate of Cost to be met by the Imperial Council of Agricultural Research.

RECURRING CHARGES.

No.	Particulars	Amount in rupees					Total
		1st Year	2nd Year	3rd Year	4th Year	5th Year	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	Staff—						
	Farm Manager 1 (100—10—150.)	1,200	1,320	1,440	1,560	1,680	7,200
	Assistant Farm Manager 1 (50—5—75.)	...	...	...	600	660	1,260
	Foreman	480 (One Foreman.)	480 (One Foreman.)	900 (Two Foremen.)	1,260 (Three Foremen.)	1,560 (Four Foremen.)	4,680
	Plant Propagator 1 (50—5—75.)	600	660	720	780	840	3,600
	Assistant Entomologist 1 (100.)	1,200	1,200	1,200	1,200	1,200	6,000
	Assistant Mycologist 1 (100.)	1,200	1,200	1,200	1,200	1,200	6,000
	Laboratory Attendants 2 (20.)	480	480	480	480	480	2,400
	Accounts Clerk 1 (35—5—60.)	420	480	540	600	660	2,700
	Typist and Record-keeper 1 : 30.	360	360	360	360	360	1,800
	Store-keeper 1 : 30 ...	360	360	360	360	360	1,800
	Peons 2 : 12 ...	288	288	288	288	288	1,440
		6,588	6,828	7,488	8,688	9,288	38,880
2	Maintenance—						
	Labour ...	3,000	4,000	5,000	6,000	7,000	25,000
	Manure ...	...	1,000	3,000	3,000	3,000	10,000
	Plants and Seeds ...	1,000	2,000	1,000	1,000	1 000	6,000
	Tools and Implements.	1,000	1,000	500	500	1,000	4,000
	Contingencies ...	1,000	1,000	1,000	1,000	1,000	5,000
	Total ...	6,000	9,000	10,500	11,500	13,000	50,000
	Grand Total ...			...	...	...	88,880

Appendix C

ABSTRACT OF EXPENDITURE.

Particulars	Amount in rupees					Total
	1st Year	2nd Year	3rd Year	4th Year	5th Year	
	Rs.	Rs.	Rs.	Rs.	Rs	Rs.
Government of Mysore—						
Total Non-Recurring ...	85,000	...	...	...	...	85,000
Total Recurring ...	1,500	1,750	1,750	2,500	2,500	10,000
	...	...	...	...	..	95,000
Imperial Council of Agricultural Research—						
Total Recurring ...	12,588	15,828	17,968	20,188	22,288	88,880
Grand Total ...	...	...	...	...	...	183,880

List of Fruit trees introduced by the Gardens Department since 1860.

APPLES.

1. Rome Beauty.
2. Cox's Orange Pippin.
3. Jonathan.
4. Reinette du Canada.
5. Cleopatra.
6. Allington Pippin.
7. King David.
8. Devonshire quarrenden.
9. Ribston Pippin.
10. Worcester Pearmain
11. Kentish Fill Basket.
12. Glengyle Red.
13. London Pippin.
14. Wilson Red June.
15. Munro's Favourite.
16. Emperor Alexander.
17. Granny Smith.
18. Delicious.
19. Albermarale Pippin.
20. Rokewood.
21. Sturmer Pippin,
22. Lord Wolseley.
23. Pomme de Neige.
24. Marjorie Hay.
25. Stayman Winesap.
26. Gravenstein.
27. Statesman.
28. Red Statesman.
29. Williams' Favourite.
30. Dougherty.
31. Crofton Pearmain.
32. Lord Nelson.
33. Lady Carrington.
34. Henry Clay.
35. Loy.
36. Irish Peach.
37. Democrat.
38. Yates.
39. Mc Intosh Red.
40. Black Ben Davies.
41. General Carrington.
42. Cole.
43. Foster.
44. Commerce.
45. Elsie Grant.
46. Senator.
47. Liveland Raspberry.
48. Beauty of Bath.
49. Hoover.
50. Northern Spy.
51. Peasgood's Nonsuch.
52. Newton Pippin.
53. Springdale.
54. Esopus Spitzenberg.

GRAPES.

1. Dodrelabi.
2. Muscat of Alexandria.
3. Black Hamburg.
4. Gordo Blanco.
5. Doradilla.
6. Muscat Hamburg.
7. Black Prince.

CITRUS.

(*a*) *Orange.*—

1. Washington navel.
2. Thompson's Improved navel.
3. Valencia Late.
4. Joppa.
5. Navelencia.
6. St. Michæl.
7. Parametta.
8. Jaffa.
9. Queen.
10. Seville.
11. Mediterranean Sweet.
12. Nagapur.
13. Emperor (Mandarian).
14. Thorny Do
15. Beauty of Glen. Retreat. (Mandarian).

(*b*) *Lemon.*—

1. Eureka.
2. Lisbon.
3. Villa franca.
4. Sweet Rind.

(*c*) *Grape Fruit.*—
1. Marsh Seedless.
2. Triumph.
3. Shaddock Blood.

(*d*) *Limes.*—
1. Darjeeling Lime.
2. Tahitian.
3. Dominion Spineless.

STRAWBERRY.

1. Royal Sovereign.
2. Melba.
3. Illawarra.

APRICOT.

1. Moor park.
2. Blenheim.
3. Early Moor park.

PEACHES.

1. Early Rivers.
2. Elberta.
3. Triumph.

PLUM.

1. Diamond.
2. Greengage.
3. Jefferson.
4. Coe's Golden Drop.
5. Monarch.
6. Magnum Bonum Yellow.
7. Rivers Early Prolific.
8. Washington.
9. Burbank.
10. Kelsey.
11. Wickson.

PEARS.

1. William's bon Chretien.
2. Jorgonelle.
3. Keiffer's Hybrid.
4. Howell.
5. Wilder.
6. Packham s Triumph.
7. Clapp's favourite.
8. Doyenne du Comice.
9. Vicar of Winkfield.
10. Winter Bartlett.

PAPAYA.

1. Washington.
2. Ceylon.
3. Honey Dew.
4. Singapore.
5. Mammoth Java.

ANONAS.

1. Anona squamosa.
2. Anona raticulata.
3. Anona muricata.
4. Anona cherimolia.

PLANTAINS.

1. Rasabale.
2. Chandrabale.
3. Havubale.
4. Rajabale.
5. Yelakkibale.
6. Puttabale.
7. Karibale.
8. Madurangabale.
9. Kassadia.
10. Payan.
11. Savargundi.
12. Madura Annun.
13. Sahasrapalli.
14. Suganda.
15. Sohnaai.
16. Pacha Vellan.
17. Rastali.
18. Sonari.
19. Kumbica Annan.
20. Red.
21. Rageli.
22. Mutheli.
23. Lal-Velchi.
24. Bankel.
25. Safet Velchi.
26. Karanjeli.
27. Mhosket.
28. Govajiri.
29. Kanher.
30. Ruswell.
31. Meghone.
32. Noire.
33. Gaban.
34. Blane.
35. St. Pacques.
36. Malgache.

PINE APPLE.

1. Smooth Cayenne.
2. Mauritius.
3. Queen.
4. Kew Giant Pine.
5. West Indian.
6. Riplly Queen.
7. Singapore.

MANGO.

1. Banganapalli.
2. Jehangir.
3. Strawberry.
4. Bhurdas.
5. Kakaria.
6. Gopalbhog.
7. Khrishnabhog.
8. Langra.
9. Punia.
10. Kistapal.
11. Baramashi.
12. Fagri Round.
13. Sharbathi Brown.
14. Sharbathi Black.
15. Safaida.
16. Najibadi Amin.
17. Sundarshaw.
18. Nurcka.
19. Nayab.
20. Surkha.
21. Sunahra.
22. Khajya.
23. Bulbalechasm.
24. Tamarancha.
25. Romani.
26. Davy's favourite.
27. Kachmahua.
28. Khapariah.
29. Katna.
30. Pyasse.
31. Longra Hardoi.
32. Subbunda.
33. Arbuthnott.
34. Calamin.
35. Kala.
36. Naspati.
37. Madras.
38. Sunnerbahish.
39. Mossiroto.
40. Calacco.
41. Tonquie.
42. Carriera.
43. Costa.
44. Fermandario.
45. Madam.
46. Swango Hasipoor Longra.
47. Startskorts No. 1.
48. Ferroghabonno.
49. Enmrrha.
50. Golerb Bhas.
51. Bombay.
52. Society, No. 1.
53. Society, No. 2.
54. Boramarhi.
55. Fusri.
56. Hatiyal.
57. Bhorta Bombay.
58. Stalkorts.
59. Bombay, No. 2.
60. Tamancha.
61. Decruse.
62. Kachee Meelat.
63. Dilpasand.
64. Mis. Horwoods.
65. Dewhallia.
66. Bealkhus.
67. Golarb Khas.
68. Maldah.
69. Kacha Meetarh.
70. Momberra.
71. Goa.
72. Khortohab Berna.
73. Kugrahalli.
74. Amargola.
75. Peters.
76. Nashati.
77. Bengal, No. 1.
78. Bengal, No. 2.
79. Pyonee.
80. Superintendent Lahore.
81. Brumda Bronés.
82. Bhordea.
83. Huma Bhuda.

W D 2266—GPB—300—20-7-34

Grand Hotel
Delhi, 28th Sept. 1936.

Dear Mr. Madhava Rao,

I have gone through the letter No.00353 dated 21st August 1936 sent by Mr.Sitarama Chetty to Government and also the letter written in July 1936 jointly by Sitarama Chetty and Dr.V.K.Badami. The headings of the two letters are worded differently, Fruit Research Scheme approved by the I.C.A.R. in the first letter and Scheme for Fruit Cultivation in the Mysore State in the second one. While the first letter deals with the I.C.of A.R. scheme, the second one mixes it up with other schemes drawn up and submitted to Government by Mr.G.H.Krumbiegel tne then Director of Horticulture in Mysore."

Since this is a piece of work with which I was intimately connected, I cannot help going into details mentioned in the letters and frequently using in this letter the first person singular for which I profoundly apologise. I must assure you before proceeding further that my comments are not made in a spirit of cavil and I hope they will be taken in the light in which they are offered when asked for. It is about two years since I have been out of touch with this matter and not having all the relevant papers before me I am unable to deal with certain matters which I wish I could have done.

The second letter is very sketchy and I had therefore to look into the first one for details; the latter has with it estimates for planting and maintaining the orchard, which are not found in the former. The fact that they refer to the Revised Fruit Research Scheme in Mysore State" does not make any material difference in calculating the working costs, etc.

Letter - Draft

Under the heading "Scheme" it is stated that "for the Mysore province mangoes and citrus fruits are very important commercial crops These are not only important for Mysore State but for the whole of India. It is also said that "I.C. of A.R. has not taken into consideration these important crops of the State . They did take them into consideration but since they had already granted funds for research on these fruits in other centres, they did not think it necessary to have similar work undertaken in Bangalore. When I explained that the other centres had not included certain aspects of work on these fruits I was told that I might bring up a separate scheme, so that it may not be necessary for the Government of Mysore to meet the whole cost of the proposed experiments on mango, grape and citrus plants. It is essential that experiments on these fruits should be conducted, but that is quite a different matter from the present issue. It is feared that the I.C. of A.R. may not continue or cease to pay the full amount now sanctioned. That will largely depend on the work carried out in the Research Station but I remember cases where extension of schemes have been sanctioned.

In the second letter it is proposed to exclude the cultivation of miscellaneous fruits from the I.C. of A.R. scheme and to reduce the area from 45 to 30 acres which again is altering the sanctioned scheme. It is proposed to acquire land at the rate of Rs.500/- per acre which seems very high. The possibility of reducing the cost of cultivation so that th

area of 45 acres may be brought under cultivation has also been discussed elsewhere under financial aspect The cost of labour near the city would naturally be excessive.

A sum of Rs.5,000 is said to be necessary for leave, travelling allowance and provident fund. This amount seems to be high. When the men are on temporary service, leave allowances will not be so high as in the case of permanent hands. I do not think there is much necessity for touring and the provision under T.A. ought to be very little. I do not know how provident fund charges have been calculated; coolies will be engaged on a temporary basis or better still labour can be arranged on contract or piecework system. This is, however, a matter for the Accounts Department to calculate and I think the amount could have been easily found out of the sum of Rs.4,000 provided under the item Unforeseen charges on page 17 of the original printed booklet dealing with the scheme.

It is stated that a carefully thought-out scheme for marketing will be required". This does not mean that Government should launch an independent scheme entailing large expenditure in the erection of a cold storage, a packing shed, grading equipment, auction room etc. In fact these matters are yet in an experimental stage. Experiments on cold storage have not been concluded in Poona. Meantime the question of Gas Storage which has better advantages has come in and experiments are about to be started. For auction room and packing shed temporary constructions ought to serve the purpose to start with. Experiments with grading equipment will soon be started and it is no use thinking of grading machinery till it is proved to be advantageous; after all hand grading may be cheaper and just as efficient.

It is stated that the sale proceeds of the orchards should be distributed between I.C of A.R. and Mysore Govt. in proportion to the capital invested. I do not know whether this condition has been stipulated. I should have thought that the income from the orchards would go to the Govt. of Mysore, and that would come in handy for meeting any additional expenditure. I have referred to this in the last sentence of the penultimate paragraph on page 16 of the printed copy of the scheme

Without all the material at hand it isdifficult to say what exactly has to be done. The main point seems to be that the amount earmarked for maintenance is not sufficient to bring in the area of 45 acres under cultivation. The cultivation of miscellaneous fruits would not cost much. Unfortunately the details of experiments in this section are not mentioned. I do not know if it would have been dealt with on page 7 of the first letter which is however missing. It is suggested that estimates should be made taking the whole area of the orchard into consideration instead of acre by acre. It may then be possible to spread the grant over 45 acres. There is a sum of Rs.2,000/- under contingencies.

In these circumstances it seems desirable to accept the scheme as sanctioned by the I.C. of A.R. unless impossible conditions are laid down. Anyhow from the letter of the Superintendent of Govt. Gardens it can be seen that no amount is required from the I.C. of A.R. this year.

NowI shall deal with the actual working of the scheme. In the second letter it is stated that "a piece of land 30 acres in extent has been selected in close proximity to the Lal Bagh and the Horticultural Farm with a a view to facilitate efficient control and supervision and also easy access to the the visitors who are interested in Horticulture". "The source

of water for this orchard would be the three existing wells equipped with pumps of suitable discharging capacity". The actual location of this site is not stated It is taken that this is a different site from what is referred to in the first letter though both are said to be near the Lal Bagh. The capacity of the pumps may be all right but the question is that of the adequacy of the supply of water about which nothing is stated. This is, however, quite contradictory to what is stated in the first letter viz. "Borehole trials in this area seem to indicate that there is not much water to be tapped even in the lower strata. However good the soil may be and the facilities that are nearby this area on the score of dearth of water ~~xxxxx~~ alone should be ruled out of consideration". It is stated that there is not enough water for 45 acres. And yet it is recommended that "experiments connected with mangoes, grapes and citrus fruits should be conducted in a site adjoining the Fruit Research Station". Wells were several times dug in different places in the southern block of the Horticultural Farm, which I expect is on a lower level than the proposed site, but water could not be found there. If I remember right the water in the well in the Sunkal Farm is brackish.

The value of the land is estimated at Rs.500/- per acre. The same price, if not something higher, would have to be paid in the case of land required for extension, if land is available at all. Any site that is selected must be capable of extension to the fullest ~~extent~~ limit not only for present needs but also for anticipated future requirements. (I am convinced more than ever that Mysore state has conditions suitable for tremendous expansion of fruit cultivation and before long it ought to be the chief centre of production of fruit for practically the whole of South India). It should also

be remembered that labour is very expensive here, the site being so near the city.

The proximity to Lal Bagh and Horticultural Farm are considered to be advantages. Efficient control and supervision are siad to be the advantages. Mere freqency of visits does not constitute efficient control; as for supervision it is the man in charge who is responsible for it. Others will have no time for it. When a place is close to the main institution it often happens that the inspecting officer is called back by some visitors who go to Lal Bagh, or to attend to some requisition or other On the other hand if it is away at some distance, one goes there with a definite purpose and one is able to put in some hours doing useful work. The staff of the existing institutions are not to go and work in the Research Station, otherwise their legitimate work will naturally suffer. There is every likelihood of the Research Staff being told off by the officers to attend to odd jobs beyond the sphere of their from work on account of urgent demands from many sources which are always present in the case of officers of Government Gardens, to the detriment of work connected with the Research Station. Lal Bagh is a public place and quite a number of people who have nothing to do try to do it there, often trespassing on the time of the staff. This results in loss of time to the officers. The same thing will occur in the case of the Research Station if it is close to Lal Bagh. A fruit garden, particularly when the trees are bearing, is an attraction for every one whether interested in real horticulture or not;

school children will be among interested visitors. Research work must be free from disturbance.

One has to remember the number of thefts of crops, that have occured in the Horticultural Farm. Then again the Hosoor road and the neighbourhood of Lal Bagh and Sunnakal Farm is well known to be the home of monkeys which are a source of great damage to seedlings, flowers and fruits. They cannot be got rid of from there.

Another advantage claimed for this site is that the buildings such as the barn in the Horticultural Farm, Old Herbarium and Bureau of Economic Botany etc., can be made use of for the research station, as they are suitable for the purpose. It is difficult to see how these buildings which exist at different places will serve the purpose of the Research Station without detriment to the work in the institutions to which they belong. From Appendix A it is seen that the office is to be in the Horticultural School Buildings in the Lal Bagh, the stores in the Barn at the Horticultural Farm and the Laboratory in the Bureau of Economic Botany attached to the Lal Bagh Office. The difficulty of managing work in these places which are at some distance from each other can easily be imagined.

A few new buildings and alterations to other buildings have been suggested at a cost of Rs.4,000. It is not known with what effect the buildings are to undergo alterations as far as their present utility is concerned. Whether it is necessary to spend large sums of money on constructing new permanent buildings to start with has to be decided.

It is a matter for Government to consider how the buildings which are part of existing Government institutions could be treated as buildings to be provided for the scheme of Research, their valuation (Rs.37,000) being shown under items of non-recurring expenditure by the Government of Mysore. In the case of schemes brought up for consideration here people are generally suspicious that they are for strengthening an existing department or to provide appointments for the men whom the authors of the scheme have in view.

I can not visualise the site situated near the Lal Bagh and the Horticultural Farm that could be eminently suited for the Research Station in which the cultivation of apples is the chief work. The area is at the foot of the depression in the ground; mildew attack is likely to be severe. No one has grown apples there, though much of the land is taken up by market gardens for vegetable cultivation.

The atmosphere of a site anywhere near the sewage farm and the cemetery and the crematorium is obviously not suitable for a Research Station for more reasons than one.

It would be very desirable that schemes requiring large areas like the one under reference should be kept well away from the growing city of Bangalore.

The Hesargatta site has been referred to as Saldevanahalli lands, but nothing is stated about the actual selection or the exact situation. From the description of the land it seems to me that it does not include the plots selected by me. The land was

inspected with Messrs. N.Subba Rao and H.F.Marker, Executive Engineers (and Mr.Pilley, their assistant) and I think Mr.Anantaraman too who was then the Deputy Commissioner. Mr.Pilley ought to know the details. Actual plans drawn by the P.W.D. on which the area was marked had been submitted to Government. I attach a rough sketch showing approximately where the plots were situated. The land near the railway may show crops of rocks but I do not think the fruit plots were ever meant to be there. The whole plot is said to be alkaline which is impossible in the case of the plots selected by me They speak of the river and the bank of a nulla which were nowhere near those plots. And I cannot imagine selecting a land under "heavy growth of casuarina" for opening an orchard. It is possible that in the area selected, there might have been in the lower portions an alkaline plot and a casuarina plantation but that would be outside the experimental plots. I had an idea of having extra land for cattle and sheep to graze and move about as can be seen from the original scheme. I do not think that the land was at the tail end of the duct channel, though the disadvantage can be overcome by not allowing water or allowing only surplus water to ~~accumulate. It is~~ water remaining crops above these lands. It is stated in the letter that "it will supply water by gravitation , but you may see that I had provided for pumps and electric power in my estimates (vide page 17 of booklet) which would not have been necessary had the plots been in a situation where water could be had by gravitation. ~~I am afraid that their report does not~~ I do not know whether the Collector has lands referred to in this letter is a later selection ~~seem to be consistent with facts~~. I had not the time to go into the question fully and I cannot say at this distance of time the number of acres of land under soil suitable for apple cultivation. I cannot, however, believe that ~~the whole area~~ the whole area I selected was alkaline and that the soil was not

deep enough for fruit plants.

Reference has been made to the necessity of uniformity of soil and sub-soil. In Nature it is not possible to find the same type and depth of soil and sub-soil over an area of 20 acres or more and that is why the different systems of laying out experimental plots are adopted. Moreover the aim should not be to take up exceptionally rich lands but typical representative soils suitable for the cultivation of the particular kinds of the fruit trees under trial. Chemical examination is not everything. "Broadly speaking the physical condition of the soil is more important in fruit production than is its chemical composition, though it should not be inferred that poor soils are preferable to good soils for orchard purposes. Soils that are unproductive from the standpoint of cereal crops are often productive from the standpoint of fruit production, and the reverse situation often occurs. The soil that is productive in pineapple cultivation may be unproductive in avocado cultivation. The only satisfactory measure of soil productivity is in terms of crop production of the specific plant under consideration." (Fundamentals of fruit production by Gardner, Bradford & Hooker).

I do not know where the necessity was to consider areas under Krishnaraja Sagara and the Irwin Canal Farm near Mandya. They were for obvious reasons out of consideration. If any place should have been thought of outside Bangalore, Hassan should have had the preference. That is by the way, however.

Finally it is found that the authors of the report have come across a piece of land in Hasarghatta area near the Rest House. This land had been seen and considered. But it was not chosen .....

as I was given to understand that ~~it~~ its acquisition would be a difficult matter as it was in a Jodi Grama and also as it was on a higher level than those plots selected near it on either side of the road leading to the Rest House from the pumping station.

I must deal with the third site-- the Grand Valley Estate-- mentioned in the letter, though in doing so I shall be in an awkward situation. I feel particularly happy that its critisism which is sloppily inaccurate does not extend over one sentence. I presume the authorities find it satisfactory in all other points except in that it is in an "open valley with no proper communications". It is not know whether they have inspected ~~it~~ the site and whether they prefer a closed-in valley or a hill top ~~or~~ and whether they think that an open valley is not suitable for an orchard. Many of the best orchards all over are in valleys. It is a distinct advantage to locate orchards and other plantations in valleys on account of the protection they get from the prevailing winds which are most damaging both to the trees and their crops-- a consideration of vital importance in fruit cultivation. If the slope is such that the plants are protected to a certain extent from western sun as in the case of the Grand Valley, it is a great point in its favour. Sun-scorch does a great deal of damage to apple plants. As for lack of proper communication I have only to say that one can drive one's car into the garden as well as up to the front door of the house. The road is certainly not so good as fine metalled roads but ~~the responsibility for that lies on those who maintain it. The road~~ it could easibly be improved at a very little cost. Modesty forbid me from describing all the good points ~~in~~ of this property in the way it deserves, but suffice it to say

as I was given to understand that its acquisition would be a difficult matter as it was in a Jodi Grama and also as it was on a higher level than those plots selected near it on either side of the road leading to the Rest House from the pumping station.

I must deal with the third site-- the Grand Valley Estate-- mentioned in the letter, though in doing so I shall be in an awkward situation. I feel particularly happy that its criticism which is sloppily inaccurate does not extend over one sentence. I presume the authorities find it satisfactory in all other points except in that it is in an "open valley with no proper communications". It is not known whether they have inspected the site and whether they prefer a closed-in valley or a hill top and whether they think that an open valley is not suitable for an orchard. Many of the best orchards all over are in valleys. It is a distinct advantage to locate orchards and other plantations in valleys on account of the protection they get from the prevailing winds which are most damaging both to the trees and their crops-- a consideration of vital importance in fruit cultivation. If the slope is such that the plants are protected to a certain extent from western sun as in the case of the Grand Valley, it is a great point in its favour. Sun-scorch does a great deal of damage to apple plants. As for lack of proper communication I have only to say that one can drive one's car into the garden as well as up to the front door of the house. The road is certainly not so good as fine metalled roads but ~~the responsibility for that lies on those who maintain it. The road~~ could easibly be improved at a very little cost. Modesty forbid me from describing all the good points of this property in the way it deserves, but suffice it to say

that there are plots where soil conditions are suited to different kinds of fruit trees, and there is a good supply of water. The surplus water from the three tanks above runs in a channel on one side of the valley. There is perennial supply of water not only in existing wells but in trial wells which were tested. Some of the fields which are already formed have typical soil for apple cultivation. (I have planted apple trees myself. They will not grow in any kind of soil however well suited it may be for some other fruit tree.) The plots have such slope as will allow proper drainage. There are already existing fruit and other commercial plants, pineapple included, which yield an income so that the interest on the capital invested is forthcoming. There is great scope for the expansion of the experimental orchards. An experimental station for vegetables can be opened here. (I had in contemplation the drafting of a scheme to be sent to I.C.of A.R. I am not aware of any scheme for research on vegetables, which is also very important. There was an idea of converting the Sunnakal Farm into a Grass Farm giving up the cultivation of vegetables there on account of the danger of its being one of the causes of typhoid fever coming through eating uncooked vegetables grown under sewage water). There is a quarry on the spot from where stone for building purposes may be had. The environments are suitable for a fruit research station. From a landscape point of view it is beautiful and it will be a pleasure to visitors to go there. It is only about five miles from the Lal Bagh. There is a pucca built house with large rooms fitted up with electric lights and also cattle sheds. There are sheep which provide manure most necessary for apple cultivation and the cost of sheep manure is very high. There is an electric pumping installation.

Mr.Krumbiegel who went round the place with me praised it much and said that he was going to place before the Government a true description of each of the sites and leave the choice to them. Please let me assure you that I have not said all this with any personal motive of gain. I would have said the same nay much more-- had it belonged to some one else. A lot of points should be considered in the working of an orchard, not merely a few general principles. Small details either make or mar the success of any horticultural industry as Mr.Krumbiegel used to say. If the Government takes either the whole or a part of this estate, it will give me much pleasure in the idea that the Research Station would be situated on a suitable land on the selection and the working of which I had personally bestowed much attention. If on the other hand you do not choose to take it, it does not matter. I should, however, be most unhappy if a place which is not well situated for the purpose of the Research Station, in the cause of which I have striven hard, is selected. But I am certain that the Government of Mysore will not do so, otherwise things would have been settled by this time. I must here take the opportunity of offering my thanks to you for having given me the privelege of offering my opinion in the matter.

Coming now to the financial aspect of the scheme, the second letter which has taken into account the working of only 30 acres as against 45 acres as sanctioned by the I.C. of A.R. provides only two statements showing the expenditure to be met by the Government of Mysore and no details showing the spread of the amount over the period of five years are available. Since it is necessary to take the area of 45 acres the estimates in the first letter have to be taken into consideration.

I think it will be possible to reduce the expenditure so that the whole area of 45 acres may be taken up. The old estimates prepared by me have been so much battered about that it is not possible now to revise the estimates. I have made some notes on the statement attached to the letter. The first page on which the estimates are dealt with, that is page no.7 of the letter is unfortunately missing as stated before. It is stated that "the scheme with the alterations now suggested by us will work up to a total cost of Rs.1,69,919, out of which the I.C.of A.R. will provide Rs.46,200 and the contribution of the Government of Mysore will be Rs.1,23,719. This sum to be provided by you is far too high. It is stated that the difference in the allotment for labour is Rs.3,755 which is not much after all. The estimates seem to be based, on the calculation made on each acre. If the whole area of 45 acres is taken into consideration anditems which are common to all sections of the orchard are considered together the cost of labour and cultivation could be reduced. Certain types of labour such as trenching, pitting, etc. may be arranged to be got done on contract basis instead of on daily or monthly wages. An experimental orchard should not only aim at conducting the necessary experiments but also demonstrating to orchardists the most economical method of planting and maintaining an orchard. A few observations are made on some of the items of expenditure.

Statement I. (1) Lands have to be paid for in any case. the cost will depend on the situation.

(2) As for buildings it is a case of estimating their value if they are already there. Otherwise cheap structures may be put up, and in the case of quarters, house rents may, if necessary, be given and the staff may find accommodation as near as possible to the place of work

(3) Equipment.- Buildings should not be mentioned under this heading when there is a separate section for it. Formation of land should also be separated.

Statement II For establishment a sum of Rs.36,414 is put down; if I remember right I.C.of A.R. sanctioned Rs.26,000 and odd, which was accepted. Bullocks should not be under recurring expenditure.

Statement IV. Apples. distance of planting 20 x20 This is too wide apart, 14 ft. each way will suite do. Cost of Manure is said to be Rs.2/- per cart here and 1/8, in Statement VI, and Rs.1/4 in Statement V.

Manure has been provided for at a cost of Rs.4,500 spread over five years. Why should another sum of Rs.27/8 be charged per acre.?

Statement V Pineapples.- cost of pineapples at 8 suckers per rupee, Rs.500 per acre. It is too high. When buying by hundreds and thousands wholesale rates should be quoted. There would be a large number of suckers in the Lal Bagh Fruit Nursery which can be sold at wholesale rates. For planting three acres about 15,000 suckers are required. Such a large number ~~of~~ may not be available. It is therefore desirable to plant one acre in the first year. In the second year suckers will be available from the previous year's plants. Again a sum of Rs.37/8 is put down for manure for an acre of pineapples, after providing the cost of manure elsewhere.

Statement VI. Miscellaneous fruits,-- distance of planting 25 x 25'. It is hoped that this is the average; different fruits require to be planted at different distances. Excavation of pits is charged at 3 as. a cu.ft. whereas in Statement IV it is charged at 8 pits per rupee, the size of the pit is the same. Pears are included here. It is hopeless to try to grow pears in

Bangalore. They will not do well.

A detailed technical programme of work has been called for as can be seen from the preamble to the letter. In the Advisory Board meeting held in July 1935 it was resolved that a plan of the lay-out of the experimental plots with a technical programme of work should be submitted for approval before the work is started. It is, therefore, necessary that particular care should be bestowed in drawing up the note. I am afraid the information given in the letters about experiments is by no means adequate.

The following are a few observations under "Experiments":-

Apples. 1. Varietal tests. Ten of the most important varieties of apples will be tested". Which are those ten varieties? Besides Rome Beauty I cannot think of more than five varieties which may be considered as even fairly good among the numerous varieties tried on a decent scale in Bangalore.

The number of plants of each variety under different experiments must be as large as possible. Flourishing apple trees die with little notice on account of collar rot and whiteants attacking the roots. One has to be prepared for this contingency. The inherent variation of trees should also be taken into consideration in this connection.

A note of warning is necessary in regard to the selection of apple plants. It is stated that plants from Europe and America will be ordered. What is said to be hardy in the temperate climates will not be hardy here. The selection of the varieties of apples should require the greatest care. The descriptions in the catalogues are apt to be misunderstood. Plants from South Africa may

also be included in the varietal tests.

Pollination experiments require much thought. Experiments have already been conducted in other countries and their results indicate that best results are obtained when particular varieties are pollinated with particular other varieties. This may serve as a guide in drawing up the scheme of experiments under this head.

A complete redrafting of the note on experiments is suggested.

Pineapples. 1. Varietal Experiments. - There are a few more than 6 varieties and they may be provided for.

2. Irrigation Experiments.- "Same as in apple." No one will think of irrigating pineapple plants in the ring system which is practised in the case of apple trees.

About the receipts it is said in the first letter that they would amount to "anywhere from Rs.52,000 to Rs.74,000," while the note attached to the second letter shows the figure Rs.15,900. I doubt if the cultivation of miscellaneous fruits on 17 acres would mean all this difference, particularly when many of them are not likely to yield much in five years.

Finally about marketing the produce it is stated that the "Government of Mysore may make arrangements with the Department of Industries and Commerce. Otherwise adequate space will have to be provided for storing over a hundred tons of fruits in cool airy store house" No doubt systematic arrangements for marketing would have to be made, but the 100 tons of fruits will not come in all at once.

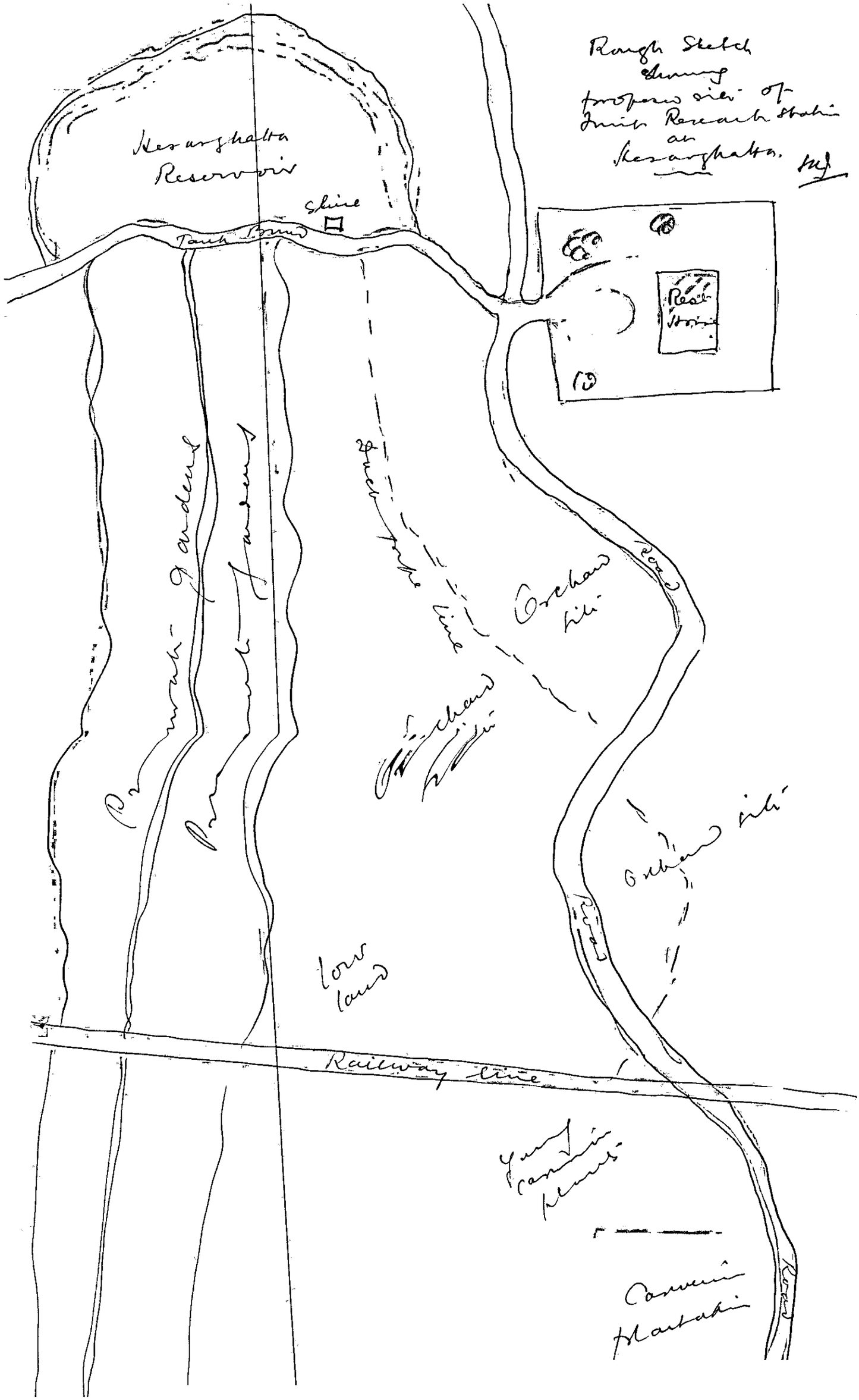
I hope you will not mind the length of this note. I though I might make matters as clear as I could.

I have herewith returned the two letters you had left with me.

Wishing every success to the Fruit Research Station,

Yours sincerely,
Jno Lowndes

R.N.


Rough Sketch
showing
proposed site of
Irrig. Research Station
at
Kesarghatta.
Kesarghatta
Reservoir
Sluice
Tank Bund
Research
Station
10
Channel
Orchard site
Orchard site
Road
Low land
Railway line
Road

No. 00353
Enc.

OFFICE OF THE SUPERINTENDENT,
GOVT. GARDENS IN MYSORE,
LAL-BAGH, BANGALORE.

Dated.....21.....August.....193 6

FROM

M. K. SITARAM CHETTY, ESQ., L.Ag.,
Offg. Superintendent, Government Gardens in Mysore,
Bangalore.

To

M.Venkatesa Iyengar, Esq., M.A.,
Secretary to the Government of
His Highness the Maharaja of Mysore,
General Department,
Bangalore.

Subject:-
Scheme for Fruit cultivation in the Mysore State.

Sir,

With reference to your letter No.7943/G.G. dated 30-6-1936 on the above-mentioned subject calling for a detailed technical - programme of work and other particulars, I have the honour to state that the Scheme as approved by the Imperial Council of Agricultural Research in their letter No. F 241-34A. dated 9-6-1936 proposes an extent of 45 acres to be taken up, of which 25 acres come under -- Apples and 20 acres under Miscellaneous fruit including Pine apple at a total cost not exceeding Rs 46,200/- spread over a period of five years. But since it is found that the provision of Rs 100/- made -- towards maintenance charges per acre by the Imperial Council of --- Agricultural Research is not sufficient it is not possible to take up the 45 acres as approved at present, within the amount sanctioned -- as a sum of Rs 200/- per acre per annum would be the minimum provision required for maintenance. It is therefore proposed to take up the ultivation of Miscellaneous fruits along with the other Schemes for angoes, Citrus and Grapes which have already been drawn up and --- bmitted to Government by Mr G.H.Krumbiegel, the then Director of - rticulture in Mysore. The total extent of the present Scheme will as be confined to 30 acres of which 25 acres are to be Apples and remaining 5 acres under Pine apples, in which case the amount of 6,200/- may be sufficient, not including however, the cost of plar

plants, seeds, tools etc, which must be met by the Government of Mysore.

No provision is however made by the Imperial Council of --- Agricultural Committee in the total sum of Rs 46,800/- for items such as Leave and Travelling Allowances and Provident Fund for the Staff employed on the Scheme. The minimum provision of Rs 5,000/- will be necessary for these items over and above Rs 23,750/- ----- sanctioned by the Imperial Council of Agricultural Research for the Staff and unless the Imperial Council of Agricultural Research agrees to the additional sum, the Government of Mysore will have to provide for the same.

After the fourth year of the Scheme, it will be necessary to arrange for the economic disposal of the fruits produced in the - Orchard, for which a carefully thought-out Scheme for marketing - will be required. But along with the Scheme mentioned in para 1 - above, a Scheme comprising of the Erection of a Cold Storage, a - Packing Shed, Grading Equipment, Auction Room etc has already been formulated and this will also have to be considered by the --- Government when the time comes

The sale proceeds realised from the working of the Fruit - Scheme will have to be distributed at the end of each year between the Imperial Council of Agricultural Research and Mysore Government in proportion to the Capital invested.

If the modifications suggested above meet with the approval of the Imperial Council of Agricultural Research, the other --- conditions mentioned in the letter under reference may be accepted.

In regard to the site for the Fruit Research Station, a --- piece of land 20 acres in extent having a gentle slope with a deep loamy soil and sub-soil has been selected in close proximity to the Lalbagh and the Horticultural Experimental Farm with a view to - facilitate efficient control and supervision and also easy access for the visitors who are interested in Horticulture. The value of the land has been estimated at Rs 500/- per acre by the Revenue - Department. The 20 acres of the orchard would at this rate cost - Rs 15000/- as per estimated provision.

The source of water for this orchard would be the three existing wells equipped with Pumps of suitable discharging capacity. Due provision for the Storage tank, pumps etc amounting to Rs 10000/- has been made in the Estimate (Vide Appendix A.)

The buildings belonging to the Lalbagh such as the Barn in the Horticultural Farm, Old Herbarium, and Horticultural School and Bureau of Economic Botany buildings etc can be made use of for the Fruit Research Station, as they are suitable for the purpose. These are shown in Appendix A. A few new buildings such as Sheds for Catchmen and Implements, and necessary alterations to other buildings have also been provided for in the Estimate to the extent of Rs 4000/-.

Details of the Experiment.

Regarding Experiments, the following scheme is proposed tentatively. All the plots will be laid in Latin Square Method or the Strip Method to provide facilities for statistical interpretation of results

Details :	Acres.
APPLES.-	
I. Experiments in Stock :-	
a. Raising and selection of local Stock ..	
b. Testing of Rome Beauty on ten different existing imported stocks	
II. Varietal Tests :-	
a. Ten of the most important varieties will be tested under Latin Square Method with ten plants in each plot planted 18'x 18'..	
b. Preliminary trials :- 80 new introductions will be tested in rows with Rome Beauty as check after every 8 varieties, planting ten plants in each row	
III. Manurial Experiments	
Ten manures consisting of bulk manure such as Sheep manure, Farm-yard Manure and Oil-cake, and artificial manures - N.,P.,K., NP.,NK.,PK.,NPK., will be tried in the Latin Square Method with ten plants in each plot of the variety Rome Beauty	

		Acres.
	III. b. Dosage trials of artificial manures :- or normal	
i.	Full/Dose of the Mixture	
ii.	Half Dose of the Mixture.	
iii.	One-and-half Dose of the Mixture	1

Plots will be arranged in Strip Method with four replications.

IV. Experiments in Irrigation :-

a. Method of Irrigation :-
ing Method VS. Furrow Method 1

b. Period of Irrigation :-
3,6,9 days of intervals 1

Plots will be arranged in Strip Method with four replications.

V. Pollination Experiments :-

These experiments will be conducted on the plants in the Varietal plots, half the number of plants being left open for natural pollination and the other half for controlled pollination.

VI. Experiments in Thinning :-

These Experiments will be conducted in the manurial plots.

VII. Reserve plot ; 2

Total:- 25 acres

PINE APPLE.-

Suckers will be planted in rows at apart and at in the row taking 144 plants per plot 1 cents in extent.

I.	Varietal Experiments :- Variation will be tested under Latin Square Method.	1 acre
II.	Manurial Experiments :- Same as in Apples on Queen Variety	2
III.	Irrigation Experiments.	1
IV.	Spacing Experiments	1

Total:- 5 acres

GRAND TOTAL :- 30 acres

With regard to the probable date of starting the Scheme, the actual start of acquiring the site with necessary preparation of ground, fencing, purchase of plants etc., will be taken on hand immediately the sanction is received.

Regarding the grant required during the current financial year a sum of ₹ 1,500/- only under " Starr " will be required if the - Scheme as now modified is sanctioned by the end of September 1936. Considering the fact that the work regarding acquisition an- ---- preparation of land and other works of Non-recurring nature will have to be done practically up to May next, no expenditure would be - required to be met by the Imperial Council of Agricultural Research under " Maintenance and hence no grant is necessary under this Head.

I have the honour to be

Sir

Your most obedient servant,

SUPERINTENDENT,
GOVERNMENT GARDENS IN MYSORE.

Estimate of cost to be met by Government of Uvaore at Lalbagh.

Non-Recurring charges.

(APPENDIX A.)

S.No.	Particulars.	Total construction including the valuation of Buildings &c.	Actual amount required for 5 Years.	Remarks.
1.	Land - 30 acres Private Land @ Rs 500/- per acre	Rs 15000	Rs 15000	
2.	Buildings:-			
a.	Farm Manager's Quarters.			
b.	Scientific Assistant's Quarters.			
c.	Quarters for Menial Staff(Watchman)	1000	1000	
d.	Cattle Shed at Lalbagh ..	2000		
e.	Potting & Grafting shed (Fruit Nursery at Lalbagh) ..	3000	~~1000~~	
f.	Implement Shed ..	1000	1000	
	Office (Horticultural School Buildings) ..	10000		
g.	Stores (Barn at the Horticultural Farm)	10000	2000	For alterations.
i.	Laboratory (Bureau of Economic Botany-building)..	10000		
3.	Other items.-			
a.	Fencing 30 acres ..	3500	3500	
b.	Formation of land, drains, roads, pitting etc..	6000	6000	
c.	Storage tank, wells etc. ..	4000	4000	
d.	Pumps with pipe connections ..	6000	6000	
e.	Bullocks 2 pairs	500	500	
f.	Laboratory equipment	2000	2000	
g.	Plants, seeds, etc.	6000	6000	
h.	~~x~~ Tools and Implements	1500	1500	
		82500	47500	

P. T. O.

RECURRING CHARGES.

a. Leave, Travelling Allowance, and Provident Fund.	..	5,000	6,000
b. Electric Power	..	4,000	4,000
c. Maintenance of Roads & Buildings etc.		1,000	1,000
d. Unforseen charges	..	2,000	2,000
Total:-		£ 13,000	13,000
GRAND TOTAL :-		£ 94,500/-	59,500/-

SUPERINTENDENT,
GOVERNMENT GARDENS IN MYSORE.

No.
Enc.

OFFICE OF THE SUPERINTENDENT,
GOVT. GARDENS IN MYSORE,

LAL-BAGH, BANGALORE.

Dated ..... July ..... 1936.

Draft

FROM

M. K. SITARAM CHETTY, ESQ., L.A.,
~~Offg.~~ *Superintendent, Government Gardens in Mysore,*
Bangalore.

To

H. Venkatanaranappa, Esq., B.A.,

Secretary to the Government of
His Highness the Maharaja of Mysore,
Development Department,
Bangalore.

Subject:-
Fruit Research Scheme approved by the -
Imperial Council of Agricultural Research.
-:0:-

Reference:-
Letter No. D 7943/GG dated 30-6-1936.

Sir,

The revised estimates and programme of work to fit in with the one approved by the Imperial Council of Agricultural Research are herewith submitted for the kind consideration of Government.

SCHEME.

The present scheme takes into consideration only a few crops, Apples, Pine apples and Miscellaneous fruits. For the Mysore Province Mangoes and citrus fruits are very important commercial crops and some of the varieties from here are well known in the Markets of Bombay and other big cities. Further extension of any fruit cultivation in the State should attempt to preserve and improve varieties of these crops. Since the Imperial Council of Agricultural Research has not taken into consideration these important crops of the State, the Government of Mysore will have to take up the question at an early date. It is desirable that experiments connected with Mangoes, Grape vine and Citrus fruits should be conducted in a site adjoining the Fruit Research Station. Separate recommendations will be submitted regarding them.

The Scheme originally submitted by us was worked out for a total sum of Rs 1,83,880/-, out of which the contribution from the Government of Mysore and Imperial Council of Agricultural Research were as follows

1. Government of Mysore	Rs 95,000/-
2. Imperial Council of Agricultural Research	88,880/-

As it now stands, the contributions will alter considerably. Only 45 acres have been suggested for cropping, setting apart 25 acres for apple, 3 acres for Pine apple and 17 acres for Miscellaneous crops. Further changes also have been made in the Staff and working expenses in proportion to the reduced area.

The Scheme is sanctioned only for five years by which time it is possible to expect only some interesting results in Apples and Pine apples. The plants under Miscellaneous crops would be still growing, and most of them will not have reached the stage of bearing. In case the Imperial Council of Agricultural Research does not continue or cease paying the full amount now sanctioned, the Government of Mysore should consider the question of shouldering the extra expenditure for continuing the ~~expenditure~~ experiments.

S I T E

The location of the Fruit Orchard for experiments seems to have been considered fairly well both by Mr G.H. Krumbiegel and Mr H.C.Javaraya. The selection of the Grand Valley Estate was set aside on account of its position in an open valley with no proper communications. Of the other two sites, plot near Lalbagh and field round about Soldevanhalli, Mr Krumbiegel was more in favour of the lands near Lalbagh. The lands in Soldevanhalli are no doubt very near the Pumping Station and the buildings belonging to it. They are also situated at the tail end of the Duct channel. It will supply water by Gravitation. Since it was not finally decided regarding the choice of the area, for the work we went and examined the plots once again.

1 Soldevanhalli lands are on the top of the ridges sloping on three sides to the bank of the Arkavathi river. The Railway cutting on the eastern side clearly shows that the crop of rocks is very near the surface soil, thereby providing only very shallow soil for fruit trees which is very prejudicial for their growth. The well in the plot itself reveals a very shallow soil overlying a thick layer of heavy clay and possessing a fairly high water table. The whole plot seems to be alkaline in nature and a strip of nearly 50 yards along the bank of the river and the nullah is distinctly alkaline similar to the conditions existing on the banks of the Mandya river. The bed of the river clearly indicates the shallow soil overlying heavy stiff clay. A portion of the area proposed to be selected is now under a heavy growth of Casuarina. The experiments that are to be laid out require land with a uniform soil and subsoil for statistical interpretation of results about which the Imperial Council of Agricultural Research is very particular. For these reasons we consider that this particular piece of land is highly unfit for working of the Fruit Research Scheme.

2. The area selected near Lalbagh seems to be better and richer land than the Soldevanhalli fields, as per the Report made by the Department of Agriculture on the chemical examination of the soils. It is very near the Horticultural Farm and the Lalbagh providing great facilities for the location of buildings and supervision, but the main defect is that for irrigating 45 acres of orchard, we require nearly 12,000 gallons of water per hour for 12 hours every day. With the help of the Agricultural Engineer, we worked out this problem and find that in this locality it is not possible to supply so much water by pumping from wells. In the first instance, one well cannot supply so much water we will be forced to have several wells with several units of pumping plants all being located at the lower end of the valley and pumping up the ridge. Borehole trials in this area seem to indicate that there is not much water to be tapped even in the lower strata. However, good the soil may be and the facilities that are nearby this area on the score of dearth of water alone should be ruled out of considerations. Further the location of the Mental Hospital, the possibility of extension of the Town and the heavy value of land also will have to be taken into consideration.

As the above sites are not suitable for starting the Fruit Research Station, areas under Krishnarajasagara and the Irwin Canal Farm near Mandya were also considered. Since this Scheme is confined to Apples and Pine apples, they also are not quite suitable on account of their lower elevation than the Bangalore plateau. The experience we have of the apple crop at Madhuvana at Mysore and in other private estates is that Apples cannot be grown as successfully in those lower elevations as we can in the higher elevated plateau of Bangalore.

Hessarghatta Water Works would on the release of water supply to Bangalore affords plenty of water to an orchard and being in an area which has a similar environmental condition like Bangalore seems to be the only place where the scheme could be satisfactorily worked. We went round the area between the Pumping Station and the Hessarghatta Reservoir for selecting a site. We find that a vast stretch of flat land with gentle slope opposite the Rest House near the Reservoir is highly suitable and ideally situated for the Experimental Orchard. More than fifty acres are available in one block lying between the road on one side and the gravitation Duct - channel on the other. The soil is good loam lying over a very deep strata of red loam laterite. Preliminary chemical examination also indicates that the subsoil and soil here are much richer than the other soils of the blocks which were proposed for the Fruit Research Station. Pumping water to the head of about 40' from the Duct - channel would provide us an unlimited supply of water for irrigation. The distance to which the water should be pumped will be less than 2½ furlongs, and the Rest House will provide halting facilities for the Inspecting Officers, and all the buildings in the Pumping - Station belonging to Civil and Military Station Bangalore, which we are told will be taken over by the Government of Mysore, will provide space for locating Offices, Laboratories and Quarters. These buildings will be nearer to the orchard than the Soluvanhalli - buildings by nearly a Mile. Only a Field Laboratory and Cattle - shed will have to be built on the site of the orchard. We have - on the assumption that the new plot will be selected, have roughly

valued the cost of buildings but they will have to be properly - evaluated by the Engineering Department in order to calculate -- exactly the contribution of Government of Mysore in this respect.

Regarding the acquisition of land in all cases so far proposed for the purpose, it will have to be acquired by Government from private parties. These lands near the Rest House of the Hessarghatt Reservoir are located in the Jodi village of Aivarkhandanur and the valuation of the lands as reported by the Deputy Commissioner is about Rs. 200/- to Rs 250/-. In case the new site is approved by - Government, arrangements should immediately be made to acquire them The scheme with the alterations now suggested by us will work up to a total cost of Rs 1,69,919/-, out of which the Imperial Council of Agricultural Research will provide Rs 46,200/- and the contribution of Government of Mysore will be Rs 1,23,719/-. The details are give in the tabular statement No. I and II.

(i) Land, Buildings, Equipment &c	Rs 73,300/-
(ii) Extra Recurring Expenditure	50,419/-
	Total:- Rs1,23,719/-

Experiments.

Regarding the experiments the following scheme is proposed tentatively. All the plots will be laid out in the Latin square - Method or the Strip Method to provide facilities for statistical interpretation of results.

Apples.-

I Varietal Tests:- (a) Ten of the most important varieties will be tested under Latin Square Method, with ten plants in each plot -- planted 15'x 15'. Both the first two rows will be 20 ft. apart and the remaining

The area required is 4 Acres.

(b) Preliminary Trials:- Eight new introductions will be tested in Strip Method with Rome Beauty as check after -- every eight varieties, planting ten plants in each row.

The area required is 6 acres.

Manurial Experiments:- (a) Sheep

II. Manurial Experiments :-

(a) Sheep manure alone will be tested against NKP, KP, NP and NK in the Latin Square Method, with ten plants in each plot.

The Area required is 2 acres.

The experiments will be conducted on the variety Rome Beauty.

(b) Varying the Dosage of complete manure on Rome Beauty with five different doses in Latin Square Method.

The Area required is 2 acres.

III. Testing Rome Beauty on different stocks in Strip Method:-

The Area required is 4 acres.

IV. Irrigation Experiments: Experiments in irrigation at intervals of 3,6,9,12, and 15 days will be laid in Latin Square Method.

The Area required is 2 acres

V. Pollination Experiments:-

Mixed varieties Vs. Pure crops with six varieties in Latin Square Method.

The Area required is 3 acres.

VI. Experiments in Thinning:- Degrees of Thinning in Strip Method.

The Area required is 4 acres

Total:-25 acres.

Pine Apples.

(a) Plants will be planted in rows 3' apart and 3' in the row taking 144 plants per plot, 1 gunta in extent.

(i) Varietal Tests:- Six varieties will be tested under Latin Square Method. The Area required is 1 acre.

(ii) Manurial Experiments:- Same as in Apples with Queen Variety.

The Area required is ¼ acre

(iii) Irrigation Experiments:- Same as in Apple with Queen Variety.

The Area required is ¼ acre.

(iv) Spacing Experiments - Queen Variety.

The Area required is ¼ acre.

Total: 3½ acres

P.T.O.

3. A lorry to attend to the pumping plant - has been provided by us ... Rs 1800/-.

4. Leave Allowances which have been left out in the original scheme, have been provided for.. Rs 570/-

5. A small sum has been set part for -- Travelling Allowance .. .. Rs 1000/-

6. Contribution towards Provident Fund has not been provided for (50% from the Government) 6% of the pay. .. .. Rs 2000/-

The difference in the allotment for labour is .. Rs 77[illegible]/- the allotment required is Rs 36,[illegible]25/-, and the allotment provided by the Imperial Council of Agricultural Research is Rs 22,500/-. This is due to the fact that in Bangalore, we have two crops per year of apples compared with only one in the temperate climate, and that in these regions apple is an irrigated crop requiring more attention and labour.

For the recurring expenditure Rs 90,619/- are needed for - five years distributed as follows

1st Year	..	..	21,584/-
2nd Year	..	..	17,2[illegible]/-
3rd Year	..	..	17,2[illegible]/-
4th Year	..	..	19,477/-
5th Year	..	..	20,[illegible]7[illegible]/-

against which the Imperial Council of Agricultural Research has sanctioned 40,200/-. Either the Imperial Council of Agricultural Research should be requested to sanction the additional allotment or the Government of Mysore should provide for this.. 50,41[illegible]/-. All other proposals made by the Imperial Council of Agricultural Research in Item Nos. 1,2,3,4,6 & 7 can be accepted by the Government of Mysore.

In conclusion, we beg to submit that we have gone through every item in detail and worked out the minimum requirements for successfully working out the scheme. If the scheme is sanctioned during 1936 - 37, plants from Europe and America will be ordered for and paid during this official year alone. Plants from Austr[illegible]

Contd

will arrive only in the next official year. The initial expenditure amounting to ₹ 73,300/- in connection with lands, buildings and -- equipment etc., will have to be met by the Government of Mysore - during the year 1936 - 37 alone and also make provision of ₹ 50,419 in case the Imperial Council of Agricultural Research is not prepar to grant additional sums over and above what it has already approve now.

At the end of the five years the probable financial position may be as follows.-

	Maximum.	Minimum
1. Total Expenditure	169919/- ..	₹ 169919/-
2. Total Receipts	72000/- ..	50000/-
Net Cost:-	₹ 99919/- ..	₹ 119919/-

A large production of Apples and the fine apples on such an orchard will be hard to market locally and will entail a great deal of care and expenditure in packing and marketting, for which the government of Mysore may kindly make arrangements with the Department of -- Industries and Commerce. Otherwise, adequate space will have to be provided for storing over a hundred tons of fruits in cool airy - store-houses and provide facilities for transport and Marketing.

We have the honour to be

Sir

Your most obedient servants,

REVISED FRUIT ~~SCHEME~~ RESEARCH SCHEME IN MYSORE STATE

A level piece of land of fifty acres in extent having a general slope to the North with a deep rich red loamy soil and subsoil very near the Rest House which is close to the Hessarghatta Reservoi in the Jodi village of Alvarkhandapur is selected for the orchard. The ~~market~~ value of the land has been estimated between Rs. 200/- and Rs. 250/- by the Revenue Department. The elevation and the rainfall are and 25.7" respectively and the climatic conditions are similar to those existing in Bangalore.

The Duct channel provides water for irrigation and that the Pumping plant will supply the water, the electric power being extended from Soldevanhalli. The buildings of the Civil and Military Station, Bangalore, will provide space for Offices, Laboratory, Store House and Quarters. ~~on~~ On the orchard, cattle and potting shed and a Field Office will be built.

The nearest Railway Station is Chickbanavar on the Bangalore Poona line about 15 Miles from Bangalore. The Laboratory and the Orchard are about 18 Miles from Bangalore and approached by good metalled road.

There are no Apple orchards within five Miles at least and this provides safety against any disease or insect spreading quickly from the variety plots and if any disease or insect happens to be accidentally introduced through the exotics, a perfect control could be kept over them in this locality.

The financial aspect of the Scheme as revised now is as follows :-

ABSTRACT STATEMENT.

Cost to be met by the Government of Mysore.

1.	Land 50 acres at Rs. 250/- per acre. 45 acres for planting & 5 acres for Roads and Buildings	Rs. 12,500/-
2.	Quarters and Buildings with alterations ...	41,800/-
3.	Permanent equipment and maintenance ...	19,000/-
	Total:-	73,300/-

Recurring Expenditure.

1.	Establishment ..	Rs. 36,414
2.	Laboratory & Stores equipment..	5,500
3.	Plants and seeds	8,000
4.	Manures	4,500
5.	Tools and Implements	2,250
6.	Electric Power	3,000
7.	Cattle and Cattle field	8,700
8.	Contingencies	2,000
9.	Cultivation charges including labour for 45 acres.	26,255
	Total: Rs.	96,619/-

Receipts.

Receipts from Apples, and Pine apples mainly are anywhere from Rs 52000/- to Rs 74000/-. The Net cost of the Scheme in the end will be only the difference between the working expenses in addition to the interest on the outlay of Rs 73500/- and the Recurring expenditure of Rs 96,619/-.

If the season and the crops are good, the net expenditure will be Rs 22000/- spread over for five years, working out to about Rs 4400/ per annum.

The Imperial Council of Agricultural Research has sanctioned - towards the Scheme to meet the working expenses the sum of Rs 46,200/- A balance of Rs 50,419/- will have to be provided for starting the wor

The details of the cost of the Scheme and the cost of cultivatio of the various crops are given in the tabular statements given below:

I.	Estimate of cost for Mysore Government	Rs 73,500/-
II.	Recurring charges ..	96,619/-
III.	Probable Receipts - Maximum and minimum	52,000/- to 74,000/-
V.	Cost of cultivation of Apples per acre	260/-
V.	Cost of cultivation of Pine apples per acre..	240/-
	Cost of cultivation of Miscellaneous crops and cover crops..	90/

STATEMENT I.

Estimate of cost to be met by the Government of Mysore.

No.	Particulars.		Amount.
I.	**LAND.**		
	50 acres - 45 acres for cropping 5 acres for buildings, land etc @ Rs 250/- per acre ...		Rs 12500
II.	**BUILDINGS.**		
	(a) Farm Manager's Quarters	5000/-	
	(b) Scientific Asst do	3000/-	
	(c) Foreman, Plant Propagator, Clerk, Storekeeper, (5 buildings) ..	8000/-	38000
	(d) Quarters for Menial staff.	2000/-	
	(e) Office, Stores & Laboratory.	20000/-	
	10% of Rs 38000/- for alterations & repairs.		3800
III.	**EQUIPMENT.**		
	(a) Fencing - 45 acres		3000
	(b) Formation of Land, fitting and layout of plots ..		3000
	(c) Storage tank		2000
	(d) Cattle shed		1000
	(e) Potting shed and Propagating Frame..		2000
	(f) Implement shed and Field Office ..		1000
	g) Pump with pipe connections		5000
IV.	**MAINTENANCE**		
	Maintenance of Roads and Buildings		3000
	Total:		Rs 73300/-

STATEMENT II.

Recurring Expenditure for the Scheme to be met both by the Imperial Council of Agricultural Research & Mysore Government.

	No.	Particulars	1st year.	2nd year	3rd year.	4th year.	5th year.	Total.
(a)	1.	Farm Manager(100-10-160)	1200	1320	1440	1560	1680	7200
	2.	4 Foremen - 2 (40)	960	960	960	960	960	4800
	3.	Plant Propagator(50-5-75)	600	660	720	780	840	3600
	4.	Scientific Asst.(75-5-100)	900	960	1020	1080	1140	5100
	5.	Laboratory Assistant 1(20)	240	240	240	240	240	1200
	6.	Clerk (35-5-60)	420	460	540	600	660	2700
	7.	Storekeeper 1 (50) ..	600	600	600	600	600	3000
	8.	Driver 1 (30) ..	360	360	360	360	360	1800
	9.	Peons - 2 (12) ..	288	288	288	288	288	1440
	10.	Leave Allowances ..	464	489	514	539	564	2570
	11.	Travelling Allowance..	200	200	200	200	200	1000
	12.	Provident Fund	363	381	401	420	440	2004
		TOTAL:-	6594	6938	7283	7607	7973	36414
(b)	1.	Bullocks - (6 pairs):	1200	..	..	..	..	1200
	2.	Laboratory equipment..	2000	..	..	..	..	2000
	3.	Stores, equipment, mach	..	..	500	1000	2000	3500
	4.	Plants and Seeds etc.	4300	3000	200	200	100	8000
(c)	1.	Manure	500	1000	1000	1000	1000	4500
	2.	Tools & Implements ..	1000	500	250	250	250	2250
	3.	Electric Power	600	600	600	600	600	3000
	4.	Fodder & Concentrates..	1500	1500	1500	1500	1500	7500
	5.	Contingencies ..	400	400	400	400	400	2000
		TOTAL: Rs.	17200	7000	4450	4950	5850	75,950

P.T.O.

No.	Particulars	1st year	2nd year	3rd year	4th year	5th year	Total.
(d)	Cultivation charges for 45 acres.-						
	1. Apples - 25 acres.						
(a)	Cost of planting - including filling up of pits	360 (10 acres)	540 (15 acres)	..	..	..	900
(b)	Annual maintenance	350	1875	4000	5000	5000	16225
	2. Pine apples 3½ acres	1050	700	700	1050	700	4200
	3. Miscellaneous crops - 17 acres	1530	850	850	850	850	4930
	TOTAL:- Rs.	3290	3965	3550	6900	6550	26255
	GRAND TOTAL:- Rs.	21584	17903	17283	19477	20372	96619

STATEMENT. III

Receipts from Apples, Pine apples and Miscellaneous crops.

No.	Particulars.	1st year.	2nd year.	3rd year.	4th year	5th year.	Total.
	APPLES						
	Quantity in Dozens..				30000	50000	
	Value :-						
@	12 as. per day.. Maximum				22500	37500	60000
@	8 as. per day.. Minimum				15000	25000	40000
II.	PINE APPLES.-						
	Quantity in Number..	17250	17250.			17250	
	Value:-						
@	4 as. per fruit.. Maximum	4375.	4375.			4375	13125
@	3 as. per fruit.. Minimum	3450	3450			3450	10350
III.	MISCELLANEOUS FRUITS & COVER CROPS..						
	Value :-	50	100	150	400	500	1200
	Maximum..	50	4475	4525	4775	...	74000
	Minimum..						62750

Total Recurring Expenditure:- Rs 96,619/-

Total Receipts :- Rs 52,000/- to Rs 74,000/-

(To be credited to the Government of Mysore and the Imperial Council of Agricultural Research in proportion to funds provided by them).

STATEMENT. IV.

Estimate of the probable cost of the Initial Expenditure required for planting an acre of Apples.

Number of plants per acre at 20' x 20' = 109)

No.	Details of work.	Amount
1	Ploughing and Harrowing thrice	7- 8- 0
2.	Excavation of pits 3' cube at 8 pits per Rupee	14- 0- 0
3.	Manure for filling in the pits at 2 baskets per pit (7 cartloads) ..	14- 0- 0
4.	Filling pits with manure, sand etc at one anna per pit.	9- 8- 0
5.	Cost of 109 plants at Re.1/- each	109- 0- 0
6.	Planting and watering	5- 0- 0
	Total:Rs	151- 0- 0

Estimate of the probable cost of maintaining one acre of Apple crop per Half year.

No.	Details of work.	Amount
1.	Ploughing and Harrowing ..	7- 8- 0
2.	Digging of the basins (20 men) ..	10- 0- 0
3.	Forming basins and water channels ..	5- 0- 0
4	(a) Manure at 2 baskets per plant (7 cartloads)	12- 0- 0
	(b) Fertilisers at 2½ lbs per tree (265 lbs)	15- 8- 0
5.	Manuring, mixing, defoliating etc	15- 0- 0
6.	Irrigations (26)	26- 0- 0
7.	Weedings (3) 10 women per weeding	7- 8- 0
8.	Watching the crop for three months	24- 0- 0
9	Harvesting and storing (Harvesting season extends for over a month) ..	8- 0- 0
	Total:-Rs	130- 8- 0

The crops are got twice annually and the same operations have to be repeated twice.

The cost of maintenance per annum, therefore, would be about Rs 260/ from the Fourth year.

STATEMENT V.

Estimate of the probable cost of the Initial Expenditure required for planting one acre of Pine apple.

Number of plants per acre at ~~2x~~ 3'x 3'= 4840 or 5000 plants

No.	Details of work.	Amount
1.	Ploughing thrice and harrowing ..	7- 8- 0
2.	Trenching - (20 men) 1 cubit deep ..	100- 0- 0
3.	Manure 10 cartloads @ - 1/4/- ..	22- 8- 0
4.	Cost of plants at 8 suckers per One Rupee.	500- 0- 0
5.	Planting and watering at 4 Men and 10 Women for - lays..	30- 0- 0
	Total:-Rs.	675- 0- 0

Estimate of the probable cost of maintaining one acre of - Pine apple crop per annum.

No.	Details of work.	Amount
1.	Digging one acre and clod crushing (32 men and 16 women) ..	20- 0- 0
2.	(a) Manure 10 cartloads at 1-8-0 per cartload	15- 0- 0
	(b) Hongey cake ¾ ton ..	22- 8- 0
3.	Manuring and mixing, 2 Men and 8 women for about a week.	21- 0- 0
4.	Formation of furrows - 10 Men ..	5- 0- 0
5.	Irrigations(40) ..	40- 0- 0
6.	Interculturing and weeding (8) at 10 Women per weeding.	20- 0- 0
7.	Watching, harvesting etc - 1 man at Rs 8/- p.m.	96- 0- 0
	Total:-Rs.	239- 8- 0 or
	Rs.	240/-

STATEMENT VI.

Estimate of the probable cost of the Initial Expenditure required for planting an acre of Miscellaneous fruits such as Loquot, Litchi etc.

Number of plants per acre at 25'x 25'= 69.

No.	Details of work.	Amount.
1.	Ploughing thrice and Harvesting	7- 8- 0
2.	Excavation of pits 3'cube at 3 annas per pit.	8- 0- 0
3.	Manure at 2 baskets per tree at 1-8-0 per cartload (4½ cartloads) ..	6-12- 0
4.	Filling pits at one anna	4- 5- 0
5.	Cost of plants at 8 annas per plant on average ..	69- 0- 0
6.	planting and watering	3- 0- 0
	Total:-	Rs 98- 9- 0 or Rs 100/-

Estimate of the probable cost of maintaining one acre of Miscellaneous Fruits such as Loquot, Litchi, Pear etc.

No.	Details of work.	Amount.
1.	Ploughing and Harrowing	7- 8- 0
2.	Digging of the basins - 9 Men	4- 8- 0
3.	Forming basins and water channesl - 10 Men	5- 0- 0
4.	Manure at 2 baskets per tree (4½ carts at 1-8-0 per cart) ..	6-12- 0
5.	Manuring and mixing ..	10- 0- 0
6.	Irrigations (26) ..	26- 0- 0
7.	Weeding (4) - 40 Women ..	10- 0- 0
8.	Watching - 1 Man on Rs 8/- p.m. for 3 months ..	24- 0- 0
	Total:- Rs	93-12- 0

Details of Receipts

Apples

Apples begin to bear from the 4th year on-wards.

Realisation in the 4th year @ Rs 200/- per acre. from 14 acres — Rs 2800/- (14×200)

So in the 5th year at Rs 400/- per acre from 14 acres — Rs 5600/- (14×400)

Total Rs 8400/-

About 10 acres of the area under apples have not been taken into consideration since it is not known whether all the varieties would yield

Pine Apples

The income from 5 Acres at Rs 500/- per acre for 3 acres } Rs 7500/- (5×500×3)

Total realization from Apples & Pine apples { = Rs 15,900/-

against which the Imperial Council of Agricultural Research has sanctioned Rs. 46,200/-. Either the Imperial Council of Agricultura Research should be requested to sanction the additional allotment or the Government of Mysore should provide for this .. Rs. 50,419/- All other proposals made by the Imperial Council of Agricultural Research in Item Nos. 1,2,3,4,6, & 7 can be accepted by the --- Government of Mysore.

In conclusion, we beg to submit that we have gone through every item in detail and worked out the minimum requirements for successfully working out the Scheme. If the Scheme is sanctioned during 1936 - 37, plants from Europe and America will be ordered for and paid during this official year alone. Plants from - Australia will arrive only in the next official year. The initial expenditure amounting to Rs. 73,300/- in connection with Lands, -- Buildings and Equipment &c will have to be met by the Government of Mysore during the year 1936 - 37 alone and also make provision of Rs. 50,419/- in case the Imperial Council of Agricultural Researc is not prepared to grant additional sums over and above what it - has already approved now.

At the end of the five years the probable financial positio may be as follows.-

	Maximum.	Minimum.
1. Total Expenditure..	Rs. 169919/- ..	Rs. 169919/-
2. Total Receipts ..	72000/- ..	50000/-
Net Cost:-	Rs. 99919/- ..	Rs. 119919/-

A large production of apples and the Pine apples on such an orcha will be hard to market locally and will entail a great deal of ca and expenditure in packing and marketting for which the Governme of Mysore may kindly make arrangements with the Department of -- Industries and Commerce. Otherwise, adequate space will have - to be provided for storing over a hundred tons of fruits in cool airy Store Houses and provide facilities for transport and -- Marketing.

at a time

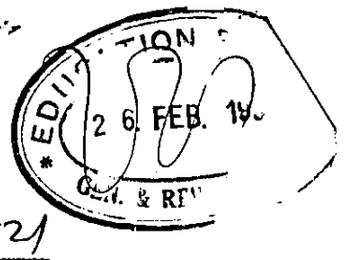
We have the honour to be
Sir
Your most obedient servants,

17.7.36

Dept. Br.

1

University of Mysore.



2521

No. V243
Enc. one.

Office of the Mysore University,
Camp) Bangalore,
Dated Mysore, ...February..... *193* 5.

FROM

V. GOPALASWAMI AIENGAR, ESQ., M.A.,
Registrar, Mysore University,
Mysore.

To

The Chief ~~Secretary~~ *Secretary to the Government of*
His Highness the Maharaja of Mysore,
Bangalore.

SIR,

I am directed to forward herewith an application dated the 13th February 1935 from Mr. K.V. Srinath, M.Sc., Demonstrator in Botany, Intermediate College, Bangalore, offering to undergo foreign training in fruit culture, if the Government should provide him with a substantial appointment after his return.

I have the honour to be,
Sir,
Your most obedient servant,

Registrar.

Dept. Br.

University of Mysore.

EDUCATION
26 FEB. 19
GEN. & REV.

2521

No. V243
Enc. One.

Office of the Mysore University,
Camp) Bangalore,
Dated Mysore, ...February..... *193* 5.

FROM

V. GOPALASWAMI AIENGAR, ESQ., M.A.,
Registrar, Mysore University,
Mysore.

To

The Chief ~~Secretary~~ *Secretary to the Government of*
His Highness the Maharaja of Mysore,
Bangalore.

SIR,

I am directed to forward herewith an application dated the 13th February 1935 from Mr. K.V. Srinath, M.Sc., Demonstrator in Botany, Intermediate College, Bangalore, offering to undergo foreign training in fruit culture, if the Government should provide him with a substantial appointment after his return.

I have the honour to be,
Sir,
Your most obedient servant,

Registrar.

To

The Chief Secretary

to the Government of His Highness The Maharaja of Mysore,

Bangalore.

(Through)

The Superintendent,

Intermediate College,

Bangalore.

Sir,

I wish to approach the Government with the following request for kind and sympathetic consideration:--

I am an M.Sc., in Botany of the Mysore University. I graduated B.Sc., in the year 1930 in the first class and took the first place. Since taking the B.Sc., Degree I have been working as a demonstrator in the Department of Botany of the Mysore University. During these five years, I have been doing research work in Plant Cytology under the guidance of Dr. M.A.Sampathkumaran, and have acquired valuable experience in modern methods of Cytological research.

I now understand that the Imperial Council of Agricultural Research is making a contribution of nearly half a lakh of rupees during the coming five years for the encouragement of fruit culture in our State. I am very much interested in fruit culture and am very eager to specialise in this branch of knowledge by taking training in the following premier centres of Fruit Research.

1. Hilgard Hall, Berkely, California.
2. Florida.
3. East Malling Fruit Research Station, Kent. (England)
4. Long Ashton Fruit Research Station, near Bristol.

I intend making a special study of Fruit breeding in general and Pomology in particular. I wish to state that since I have had a good preliminary training in Plant Cytology, which is closely related to Plant Breeding, I am very confident of undertaking -- research work in Fruit Breeding.

The period of foreign training may extend from eighteen to twenty-four months and will involve a considerable amount of -- expenditure. I am prepared to meet out of my own pocket all the expenses of this foreign training if the Government provides me with a suitable appointment when I return to the State after obtaining the necessary training.

I humbly request the Government to give a kind and sympathetic consideration to my prayer.

I beg to remain,

Sir,

Your most obedient servant,

K.V. Srinath

Demonstrator in Botany

Intermediate college.

Bangalore

15th February 1935.

[Appendix F. G.–1]

(4

SUBJECT.....

Section. A&E

File No.

Serial No.

No. 06301-2

Diary No. of letter replied to.....

To 1) The Dir of Agn
2) Supdt. G.G

General and Revenue Secretariat.

( )

the *193*

Date of issue 29/3/25

Signed by H. N. Mehra

Sir,

I am directed to reques
you to be so good as to make
it convenient to meet the
Second Member of Council
in his Chambers in the Publi
Offices at 3 30 P.M. on
1st April to discuss the points
arising out of the Fruit Re
Search Scheme

I have etc
27/3
for Dep Sec
Hlb

List of enclosures.....

Copied by.....

Examined by.....

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat 29 c

Dated, Bangalore, 28th March *193* 5.

No. D 6301-2

From Ag

The *Secretary to the Government of His Highness the Maharaja of Mysore, Development Department.*

To The Director of agriculture
The Supdt Govt Gardens.

Sir,

I am directed to request you to be so good as to make it convenient to meet the Second Member of Council in his Chambers in the Public Offices at 3.30 P.M. on Monday the 1st April 1935 to discuss the points arising out of the Fruit Research Scheme.

I have the honour to be,
Sir,
Your most obedient servant,

For Secretary to Government,
Development Department.

vvk.3.

Appendix F G—1]

6

SUBJECT.....

.....

.....

Section AFG

File No.

Serial No.

No. D. 3219

Diary No. of letter replied to.....

To The Secy.

Impl Council of Agri

Research, New Delh

General and Revenue Secretariat

( )

the *193*

Sir,

Date of issue 13.11.35

I am directed to

Signed by Mr N. M. R.

State that it is seen fro

the proceedings of the meet

ings of the Governing Body

of the Impl Council of Agri

Research held at New Delhi

on 21st & 22nd Jan. 1935, the

the scheme for fruit-culti

List of enclosures.....

vation in the Mysore

State as revised by the

Copied by .....

Fruit Comee & Advisory

Board & modified by the

Examined by.....

Vice-chairman of the Council was sanctioned, but that so far no formal communication in the matter has been received here

I am to ~~enquire when~~ request you to kindly intimate the stage at which the question is pending and when the formal communication of the sanction of the allotment of funds may be expected

the necessary funds will be placed at the disposal in what stage the question is

I have etc.

for Secy.

Devel C

29/10/35

for 30/10

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat

No. D. 3219

Bangalore, Dated 12th November *1935*

From

The *Secretary to the Government of His Highness the Maharaja of Mysore,*
Development Department.

To

The Secretary,
Imperial Council of Agricultural Research,
NEW DELHI.

Sir,

I am directed to state that it is seen from the proceedings of the meetings of the Governing Body of the Imperial Council of Agricultural Research held at New Delhi on 21st and 22nd January 1935, that the scheme for fruit cultivation in the Mysore State as revised by the Fruit Committee and Advisory Board and modified by the Vice-Chairman of the Council was sanctioned, but that so far no formal communication in the matter has been received here.

I am to request you to kindly intimate the stage at which the question is pending and when formal communication of sanction and the allotment of funds therefor may be expected.

I have the honour to be,

Sir,

Your most obedient servant,

for Secretary to Government,
Development Department.

No.F.241-34/Agri

Imperial Council of Agricultural Research,

New Delhi, the 29th November 1935.

From

N.C. Mehta, Esq., I.C.S.,

Secretary.

To

The Secretary to the Government of

His Highness the Maharaja of Mysore,

Development Department,

Bangalore.

Scheme of research in fruit cultivation in the Mysore State.

Sir,

With reference to your letter No.D.3219, dated the 13th November 1935, I am directed to say that the financial position of the Council is at present under examination and until this examination is complete, it will not be possible to say when funds will be allotted to the scheme mentioned above. A further communication on the subject will however be made to you shortly.

I have the honour to be,

Sir,

Your most obedient servant,

NC Mehta

Secretary.

DS 28/11

10

Appendix F G—1]

SUBJECT.....

.....

.....

Section AGE

File No.

Serial No.

No. D. 6081

Diary No. of letter replied to.....

To

The Secy, Imperial Council of Agri. Research. New Delhi

General and Revenue Secretariat

( )

the *193*

Sir,

With ref ce to your letter No. 7241-34/Agri dt 29/11/35 re the Scheme of research in fruit cultivation in the Mysore State, I am directed to enquire when the further Communication referred to in your letter may be expected

Date of issue 6/4/36

Signed by Mgr. K.S.R.

I have etc

31/3/36

for Genl Sec

List of enclosures.....

Copied by .....

7/3/36.

Examined by.....

WD 08601—GPB—30,000—23-9-35

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat 11

No. D. 6081 *Dated, Bangalore,* 6th April 1936.

From

The *General Secretary to the Government of His Highness the Maharaja of Mysore.*

To

The Secretary,
Imperial Council of Agricultural Research,
New Delhi.

Sir,

With reference to your letter No.F. 241-34/Agri. dated 29th November 1935 re: the scheme of research in fruit cultivation in the Mysore State, I am directed to enquire when the further communication referred to in your letter may be expected.

I have the honour to be,

Sir,

Your most obedient servant,

for General Secretary to Government.

RS.

12

Telegraphic address :—
AGRISEC.

No. 'F.241/34/Agri

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

~~Simla, 8x~~ New Delhi, the 15th April 1936

FROM

N.C. Mehta, Esq., I.C.S.,
SECRETARY,

20 APR. Dep ---

To

The General Secretary to the Government of
His Highness the Maharaja of Mysore,
Bangalore.

Subject:- Scheme for research on fruit cultivation in the Mysore State.

...

Sir,

With reference to your letter No.D.6081, dated the 6th April 1936, I am directed to inform you that the question of allotment of funds to the scheme is under consideration and the decision arrived at will be communicated to you in due course.

Submitted for perusal
2074 20.4.36

Seed Member

Dewan

I have the honour to be,
Sir,
Your most obedient servant,
Mehta
Secretary.

M.H.

DEPARTMENT OF AGRICULTURE, MYSORE STATE.

13

TEL. ADDRESS: "AGRI., BANGALORE."
Code: 5th Edition A.B.C.

OFFICE OF THE DIRECTOR,
BANGALORE.

B. NARASIMHA IYENGAR, Esq., B.A., PH.D.,
Director.

Dated.....20th April.....*193* 6

D.O. No. Roc. 1313. Hc. 422/35-36.

Dear Mr. Madhava Rao,

I have gone through the budget estimates of the Imperial Council of Agricultural Research sent with your letter of the 17th instant so far as they relate to the schemes for work in Mysore and find that the amounts provided include all our requirements.

The schemes are 3 in number and have been marked on pages 7, 12 and 14.

As desired, I am herewith returning the budget estimates.

Yours sincerely,

B. Narasimhaiyengar

N. Madhava Rao, Esq., B.A., B.L.,
Member of Council, Bangalore.

No. F. 7-(1)/36/G.

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

Simla, the 30th March 1936.
4th April

MEMORANDUM.

SUBJECT :—*Budget estimates for the year 1936-37.*

The enclosed estimates of receipts and expenditure and the anticipated opening and closing balances of the Council for the year 1936-37 have been prepared in accordance with bye-law 1 of the bye-laws of the Imperial Council of Agricultural Research and are circulated for the sanction of the Governing Body as required under bye-law 4. Revised estimates for 1935-36 are also given for information and approval of the Governing Body.

2. Sanction of the Governing Body is accordingly solicited to the accompanying budget estimates and may kindly be communicated so as to reach the undersigned not later than the 20th April, 1936.
25th

N. C. MEHTA,
Secretary.

All the members of the Governing Body.

Budget Estimates of Receipts and Assets of the Imperial Council of Agricultural Research for 1936-37

Serial No.	Head of Account.	Budget estimates for 1935-36.	Revised estimates for 1935-36.	Budget estimates for 1936-37.	Remarks.
		Rs.	Rs.	Rs.	
I	Grants from Central Government for research work—				
	(*i*) Annual recurring grant	..	5,00,000	5,00,000	
	(*ii*) Grant for Sugar	2,50,000	2,50,000	2,50,000	
	(*iii*) Grant for Marketing Scheme	2,00,000	2,00,000	2,00,000	
	(*iv*) Grant for Dairy Research Institute	4,16,000	..	..	
	(*v*) Special grant for research work from the Government of India	..	..	16,00,000	
	(*vi*) Balance of the initial non-recurring grant due from the Government of India	..	..	10,00,000	
	Total I	8,66,000	9,50,000	35,50,000	
	Grants from Indian States—				
	(*i*) Donation from Mysore Durbar; one lakh in 20 annual instalments	10,000	10,000	5,000	
	(*ii*) Donation from Baroda Durbar; one lakh in 20 annual instalments	5,000	5,000	5,000	
	(*iii*) Donation from Cochin Durbar; one lakh in 20 annual instalments	5,000	5,000	5,000	
	(*iv*) Donation from Travancore Durbar; one lakh in 20 annual instalments	5,000	5,000	5,000	
	(*v*) Donation from Bhopal Durbar, Rs. 50,000 in 20 annual instalments	2,500	2,500	2,500	
	Total II	27,500	27,500	22,500	
III	Interest from Investments—				
	(*i*) Interest from 5 per cent loan of 1939-44	77,500	77,500	77,500	
	(*ii*) Interest from fixed deposits, etc.	21,500	15,400	21,000	
	Total III	99,000	92,900	98,500	

Serial No.	Head of Account.	Budget estimates for 1935-36.	Revised estimates for 1935-36.	Budget estimates for 1936-37.	Remarks.
		Rs.	Rs.	Rs.	
IV	Miscellaneous Receipts—				
	(*i*) Receipts from Sugar Cable Service	5,500	4,000	..	It is hoped that these will be taken over by the Government of India during the year 1936-37.
	(*ii*) Receipts from the Indian Sugar Trade Information Service	4,300	2,000	..	
	(*iii*) Receipts on account of levy of professional fees by the Sugar Technologist to the Council	5,000	5,400	..	
	(*iv*) Receipts on account of admission to Harcourt Butler Technological Institute	..	800	..	
	(*v*) Receipts from Bureau of Sugar Standards	..	3,100	6,700	
	(*vi*) Receipts from the Empire Marketing Board—In respect of moiety of expenditure payable for the Bengal and Burma rice research schemes	25,300	33,700	34,000	
	(*vii*) Receipts from the Bombay Government on account of Sugar Cane research station in Bombay-Deccan	9,000	13,100	9,000	
	(*viii*) Receipts from the Indian Central Cotton Committee in respect of moiety of expenditure payable for the scheme of "investigation into the cost of production of crops in the principal sugar cane and cotton tracts of India"	60,000	72,600	41,800	
	(*ix*) Receipts on account of unspent balances of grants made by the Council to various Local Governments, private persons and Universities	2,000	4,800	2,000	
	(*x*) Receipts realised by the various Local Governments from the schemes financed from the funds of the Council	8,000	12,200	10,000	
	(*xi*) Miscellaneous	..	1,000	..	
	(*xii*) Gain on Account of exchange on Sterling transactions of the Empire Marketing Board	..	300	..	
	Total IV	1,19,100	1,53,000	1,03,500	

V	Debts and Remittances				
	(*i*) Refund of loans and advances to Council's servants	.	..	400	
	(*ii*) Deposits and advances	.	..	1,500	3,000
	(*iii*) Recoveries from the research staff on account of income tax and provident fund etc.	.	..	5,300	2,500
	Total V	.	..	7,200	5,500
	Total Receipts	.	11,11,600	12,30,600	37,80,000
	Closing balance on 31st March 1935	.	..	28,36,900*	..
	Total receipts and assets of the Council for 1935-36	.	..	40,67,500	..
	Deduct—Revised Expenditure during 1935-36 as in Part I	.	..	16,58,700	..
	Expected closing balance on 31st March 1936	.	..	24,08,800	..
	Expected opening balance on 1st April 1936	.	..	..	24,08,800
	Total Assets and Receipts of the Council during 1936-37	.	..	..	61,88,800
	Deduct—Estimated expenditure during 1936-37 as in Parts I and II	.	..	..	18,77,200
	Expected closing balance on 31st March 1937	.	..	..	43,11,600

Vide page 20 of the Annual Report on the accounts of the Imperial Council of Agricultural Research for the year 1934-35.

2	Investigations into the cost of production of crops in the principal sugarcane and cotton tracts in India—					
	(i) (*a*) Madras	4,43,200	15,000	14,900	15,000	7,500	
	(*b*) Bombay		18,100	10,300	18,100	9,500	
	(*c*) Punjab		17,600	24,500	33,100	9,600	
	(*d*) Bihar and Orissa		10,400	9,700	9,700	10,600	
	(*e*) Bengal		7,700	3,800	7,600	7,600	
	(*f*) United Provinces		15,000	14,700	14,700	8,400	
	(*g*) Central Provinces and Berar		15,200	8,000	14,000	6,400	
	(*h*) Hyderabad		4,700	4,200	4,200	1,000	
	(*i*) Mysore		4,700	4,700	4,700	2,300	
	(*j*) Baroda		4,700	4,200	4,300	2,300	
	(*k*) Sindh		4,600	4,600	4,600	2,300	
	(ii) Cost on account of remuneration for for checking the data	7,200	4,800*	4,000	4,000	3,200	Remuneration to provinces for checking the Data for the two years 1933-34 and 1934-
3	Grant for research on Mosaic and other cane diseases at Pusa	1,05,000	19,400	..	19,400	20,000	
4	Establishment of Sugarcane station in Bihar and Orissa and appointment of a Sugarcane Specialist (*a*) Non-recurring (Rs. 78,400). (*b*) Recurring (Rs. 17,000) per annum for 5 years.	2,05,800	25,600	13,000	20,200	26,000	
5	Establishment of a sub-station of the Coimbatore Imperial Sugar Station at Karnal (*a*) Non-recurring (Rs. 24,000). (*b*) Recurring (Rs. 11,600) per annum for 5 years from 1931-32.	82,000	10,000	..	10,000	16,200	Extension of this scheme has since been approved.
6	Grant to the Government of Mysore for breeding of thick canes in Mysore (*a*) Non-recurring (Rs. 3,000). (*b*) Recurring (Rs. 3,600) per annum for 5 years from 1933-34.	21,000	3,700	3,700	3,700	4,000	
7	Lump sum grants of Rs. 8,000 each to the U. P., B. & O. and Punjab Governments for experiments in the designing of a satisfactory small power sugar cane crushing mill*	29,000	2,100	2,100	2,100		Half the amount to be met by the Indian Central Cotton Committee.

Budget Estimates of Expenditure of the Imperial Council of Agricultural Research for the year 1936-37.

PART I.—Schemes sanctioned and already in progress.

Serial No.	Name of Scheme.	Sanctioned grant.	Budget Estimates for 1935-36.	Actuals for 10 months 1935-36.	Revised Estimates for 1935-36.	Budget Estimates for 1936-37.	Remarks.
	2	3	4	5	6	7	8
		Rs.	Rs.	Rs.	Rs.	Rs.	
	ENCOURAGEMENT OF SUGAR CULTIVATION AND MANUFACTURE.						
	A.-I.—SCHEMES DIRECTLY ADMINISTERED BY THE COUNCIL.						
1	Sugar Committee	39,400	3,000	2,200	2,200	2,000	
2	Sugar Technologist—						
	(*a*) Main Office	2,15,500	51,000	44,600	54,900	..	See remarks against these items on page 4.
	(*b*) Sugar Cable Service	47,500	8,900	6,500	8,500	..	
	(*c*) Indian Sugar Trade Information Service	9,000	6,500	2,800	4,800	..	
	(*d*) Expenditure in connection with the selection of candidates for admission to the Harcourt Butler Technological Institute	2,400	.	2,400	2,400	..	
	(*e*) Bureau of Sugar Standards	32,600	.	4,500	6,400	6,400	
3	Appointment of the Chief Economist and Staff in connection with the investigations into the cost of production of crops in the principal sugarcane and cotton tracts in India	75,400	16,400	12,300	15,800	16,000*	* Half the amount to be met by the Indian Central Cotton Committee.
	A.-II.—GRANTS-IN-AID TO CENTRAL AND PROVINCIAL GOVERNMENTS.						
1	Grant to the Harcourt Butler Technological Institute	2,25,000	20,000	..	20,000	20,000†	† Provisional. This will not be paid if the Institute is taken over by the Government of India.
	(*a*) Non-recurring (Rs. 1,25,000).						
	(*b*) Recurring (Rs. 20,000) per annum for 5 years.						

Serial No.	Name of Scheme.	Sanctoned grant.	Budget Estimates for 1935-36.	Actuals for 10 months 1935-36.	Revised Estimates for 1935-36.	Budget Estimates for 1936-37.	Remarks.
1	2	3	4	5	6	7	8
	A.—II.—Grants-in-aid to Central and Provincial Governments—*contd.*	Rs.	Rs.	Rs.	Rs.	Rs.	
	Sugarcane seedling testing station at Dacca .	24,900	2,300	2,000	2,000	2,100	
	Sugarcane Research Station in the Bombay-Deccan . . . . . (*a*) Non-recurring (Rs. 67,900). (*b*) Recurring (Rs. 90,840) per annum for 5 years from 1931-32.	5,22,000	63,200	13,100	63,200	65,400	
10	Research on the genetics of sugarcane at the Imperial Cane Breeding Station, Coimbatore for 5 years	37,000	5,900	1,000	6,600	8,100	
11	Research on sugarcane in the Madras Presidency for 5 years . . . . (*a*) Non-recurring (Rs. 28,600). (*b*) Recurring (Rs. 1,21,500).	1,50,100	34,100	42,000	44,300	20,800	
12	Scheme for the establishment of a sugarcane research station for the Punjab for 5 years from 1933-34 . . . . . (*a*) Non-recurring (Rs. 9,650). (*b*) Recurring (Rs. 1,23,350).	1,33,000	31,100	17,400	20,400	25,000	
13	Investigations into various problems of sugar industry in the United Provinces (5 years from 1933-34) . . . . . (*a*) Non-recurring (16,950.) (*b*) Recurring (94,950).	1,11,900	16,000	19,200	19,200	17,100	
14	Establishment of Research and testing station for the indigenous system of gur and sugar manufacture by the Sugar Technologist to the Council for 5 years at Bilari . . . . . (*a*) Non-recurring Rs. 76,000) (*b*) Recurring (Rs. 91,400).	1,67,400	69,100	8,800	20,000	27,800	
15	Extension of Sugarcane work at the Jorhat Experimental Station, Assam for 5 years. (*a*) Non-recurring (Rs. 18,000). (*b*) Recurring (Rs. 30,000).	48,000	8,300	9,500	9,500	7,000	

16	Grant to the Government of Bihar and Orissa for investigations into the possibilities of manufacturing Khandsari Sugar by the Single pan method	6,000	1,600	1,100	1,400	1,500
	Total Sugar Schemes	27,40,300	5,20,700	3,15,800	4,91,000	3,56,100
	B.—I. Encouragement and Improvement in Methods of Agriculture.					
	Schemes directly administered by the Council.					
	Locust control measures.					
1	Special staff for research work with headquarters at Karachi, from 1930-31 to 1935-36	4,56,700	86,300	68,800	85,000	74,300
2	Locust Committee	4,900	1,000	..	..	1,000
3	Central Locust Bureau	39,900	1,500	900	1,000	1,000
	B.—II. Schemes of Agricultural Research.					
1	Fertilizers Committee	3,300	1,000	..	..	1,000
2	Statistical Section of the Bureau of Agricultural Intelligence	1,28,000	10,000	13,800	17,000	18,000
3	Indian Oil Seed Crushing Industry Committee	16,400	2,500	1,000	1,000	2,000
4	Award of a prize for a bone-crusher worked (*a*) by animal power (*b*) by mechanical power	7,000	1,000	..	..	1,000
5	Marketing scheme at Headquarters	1,00,000	..	700	700	..
6	Marketing scheme (Provincial portion)	10,00,000	2,33,000	1,36,500	2,00,000	2,00,000
	B.—III. Grants-in-Aid.					
	Central and Provincial Governments.					
1.	Botanical Sub-station at Karnal	2,64,000	12,400	16,100	23,100	25,300
2.	Agricultural Meteorology, Poona— (*a*) Non-recurring (Rs. 3,000). (*b*) Recurring (Rs. 18,670) per annum for 3 years from 1932-33.	61,600	9,300*	21,300	21,300	23,100
3	Grant to the Government of Punjab for locust control measures	43,600	400	6,000	6,500	6,200

This was up to 21st, August, 1935 only. The revised estimate is for the full year.

Serial No.	Name of Scheme.	Sanctioned grant.	Budget Estimates for 1935-36.	Actuals for 10 months 1935-36.	Revised Estimates for 1935-36.	Budget Estimates for 1936-37.	Remarks.
1	2	3	4	5	6	7	8
	B.-III.—GRANTS-IN-AID—*contd.*	Rs.	Rs.	Rs.	Rs.	Rs.	
4	Appointment of a Physical Assistant on the staff of the Agricultural Chemist, Bengal— (*a*) Non-recurring (Rs. 850). (*b*) Recurring (Rs. 4,340) per annum for 5 years from 1931-32.	22,600	4,300	3,900	3,900	3,900	
5	Grant to Principal, Agra College, Agra, for investigation of Rusts of Wheat and Barley	1,89,400	44,100	39,400	46,800	47,000	
6	(*i*) Co-ordinated scheme of rice research Burma.	2,41,700	26,200	13,100	26,200	27,300	
	(*a*) Non-recurring (Rs. 35,000). (*b*) Recurring (Rs. 41,340) per annum for 5 years.						
	(*ii*) Central Provinces— . . . . . (*a*) Non-recurring (Rs. 11,000) (*b*) Recurring (Rs. 19,560) per annum for 5 years.	1,08,800	17,200	16,200	16,600	18,100	
	(*iii*) Bihar and Orissa— . . . . (*a*) Non-recurring (Rs. 20,000). (*b*) Recurring (Rs. 36,420) per annum for 5 years.	2,02,100	36,600	45,000	56,600	33,800	
	(*iv*) Assam— . . . . . . (*a*) Non-recurring (Rs. 28,800). (*b*) Recurring (Rs. 22,000) per annum for 5 years.	1,17,900	24,700	10,000	22,200	19,600	
	(*v*) Bengal— . . . . . . (*a*) Non-recurring (Rs. 33,500). (*b*) Recurring (Rs 26,260) per annum for 5 years.	1,56,300	24,300	22,000	22,100	23,000	

	(*vi*) United Provinces— . .	1,68,500	24,700	18,200	18,300	24,500
	(*a*) Non-recurring (Rs. 39,900).					
	(*b*) Recurring (Rs. 22,100) per annum for 5 years.					
	(*vii*) Madras—	1,15,700	19,500	14,200	19,300	19,700
	(*a*) Non-recurring (Rs. 25,500).					
	(*b*) Recurring (Rs. 18,020) per annum for 5 years.					
7	Research work on potatoes in Madras for 5 years from 1933-34	20,000	4,000	3,000	4,000	4,400
8	Grant to Pusa Institute for potatoe breeding research in Northern India . . .	41,600	7,500	7,000	7,600	7,500
9	Provincial schemes of Fruit Research—					
	(*a*) Bombay for 3 years . . .	90,200	17,000	12,000	18,100	17,000
	(*i*) Non-recurring (Rs. 36,400).					
	(*ii*) Recurring (Rs. 53,800).					
	(*b*) Madras for 5 years . . .	66,000	21,200	7,000	20,400	11,000
	(*i*) Non-recurring (Rs. 16,200).					
	(*ii*) Recurring (Rs. 49,800).					
	(*c*) Bengal for 5 years	56,900	7,600	7,500	7,500	7,600
	(*i*) Non-recurring (Rs. 14,000).					
	(*ii*) Recurring (Rs. 42,900).					
	(*d*) United Provinces for 5 years' . .	1,60,800	25,500	26,600	26,570	26,400
	(*i*) Non-recurring (Rs. 19,200).					
	(*ii*) Recurring (Rs. 1,41,600).					
	(*e*) Bihar and Orissa for 5 years . .	90,000	15,000	11,400	14,400	14,000
	(*i*) Non-recurring Rs. (6,000).					
	(*ii*) Recurring (Rs. 84,000).					
	(*f*) Punjab for 2 years . . .	11,000	5,200	4,500	4,500	3,700
	(*i*) Non-recurring (Rs. 1,500).					
	(*ii*) Recurring (Rs. 9,600).					
10	Dry farming research scheme for the Bombay-Deccan	2,40,000	34,100	12,900	30,300	39,800
11	Dry farming research scheme in the ceded Districts of Madras	1,39,500	24,000	26,000	44,100	19,700
12	Dry farming research scheme, for the South East Punjab.	1,31,400		15,000	21,700	21,700
13	Dry farming research scheme for Hyderabad-Deccan	59,400	10,100	10,100	10,100	10,200

	B. IV.—Universities and Private persons.					
1	Dacca University scheme of Agricultural Research	39,800	1,400	7,500	7,500	10,800
2	Prof. Mukerjee's scheme of research into properties of colloid soil constituents	32,900	1,000	3,500	3,500	6,800
3	Prof. Mahalanobis's scheme of Investigation on experimental errors in field trials	51,500	7,100	7,300	7,300	7,200
4	Prof. Dastur's scheme of rice physiology (3 years from 1931-32)	10,800	600	900	900	..
5	Investigation on the Organic Constituents of Indian Soils by Prof. J. C. Ghosh	11,200	1,800	..	1,800	2,000
6	Extension of work on "quality" in Crops by the Indian Institute of Science (2 years)	5,400	2,600	..	2,200	3,200
7	Prof. J. B. Seth's scheme for investigating an electric method of Hygrometery, Punjab (2 years)	3,600	1,800	1,300	1,300	1,000
8	Investigation for preparation of cheap synthetic manure from town refuse and waste materials by the Indian Institute of Science, Bangalore	5,000	2,600	..	400	4,600
	Total Agricultural Schemes	49,28,000	8,21,900	6,49,600	9,00,800	8,59,800
	RESEARCH SCHEMES CONNECTED WITH ANIMAL HUSBANDRY AND ANIMAL DISEASES.					
	Grants-in-aid.					
	Central and Provincial Governments.					
1	In connection with the appointment of a physiological chemist to study animal nutrition problems at Dacca (5 years from 1931-32)	64,200	10,300	18,300	18,300	12,900
2	Dr. Slater's Scheme of goat-breeding from 1931-32 to 1936-37 (*a*) Non-recurring (Rs. 7,000). (*b*) Recurring (Rs. 25,000).	33,500	5,000	5,000	5,000	1,500

Serial No.	Name of Scheme.	Sanctioned grant.	Budget Estimates for 1935-36.	Actuals for 10 months 1935-36.	Revised Estimates for 1935-36.	Budget Estimates for 1936-37.	Remarks.
1	2	3	4	5	6	7	8
	B.-III.—GRANTS-IN-AID—*concld.*	Rs.	Rs.	Rs.	Rs.	Rs.	
14	H. E. H. the Nizam's Government Scheme for the improvement of the castor crop in India	61,100	10,600	..	10,600	11,000	
	Recurring . . . . Rs. 56,300 Non-recurring . . . 4,750 Total . 61,050 from 1934-35 to 1939-40.						
15	Financial Assistance to the Oil Technological Section of the Harcourt Butler Technological Institute	30,000	30,000	15,000	30,000	30,000	Subject to Governing Body's sanction which will be sought separately.
16	Malting and Brewing Test of Improved Barleys—						
	(*i*) United Provinces	4,600	1,600	200	230	1,600	
	(*ii*) Punjab	6,000	500	500	500	4,500	
	(*iii*) Bihar and Orissa	..	2,400	2,400	2,400	1,200	
17	Chemistry of Malting Cholam, Madras Scheme	11,700	..	..	2,700	3,500	
18	Research in systematic cultivation of medicinal plants and study of food poisons by Col. Chopra	62,900	..	10,900	10,900	11,800	
19	Grant for tobacco Co-operative experiments	21,000	..	10,000	15,000	6,000	
20	Investigation of India fish poisons and other forest products for their insecticidal properties in Mysore (2 years from 1934-35)	15,300	6,700	..	6,700	1,800	

	(*vi*) United Provinces—	1,68,500	24,700	18,200	18,300	24,500
	(*a*) Non-recurring (Rs. 39,900).					
	(*b*) Recurring (Rs. 22,100) per annum for 5 years.					
	(*vii*) Madras—	1,15,700	19,500	14,200	19,300	19,700
	(*a*) Non-recurring (Rs. 25,500).					
	(*b*) Recurring (Rs. 18,020) per annum for 5 years.					
7	Research work on potatoes in Madras for 5 years from 1933-34	20,000	4,000	3,000	4,000	4,400
8	Grant to Pusa Institute for potatoe breeding research in Northern India . . .	41,600	7,500	7,000	7,600	7,500
9	Provincial schemes of Fruit Research—					
	(*a*) Bombay for 3 years . . .	90,200	17,000	12,000	18,100	17,000
	(*i*) Non-recurring (Rs. 36,400).					
	(*ii*) Recurring (Rs. 53,800).					
	(*b*) Madras for 5 years . . .	66,000	21,200	7,000	20,400	11,000
	(*i*) Non-recurring (Rs. 16,200).					
	(*ii*) Recurring (Rs. 49,800).					
	(*c*) Bengal for 5 years	56,900	7,600	7,500	7,500	7,600
	(*i*) Non-recurring (Rs. 14,000).					
	(*ii*) Recurring (Rs. 42,900).					
	(*d*) United Provinces for 5 years . .	1,60,800	25,500	26,600	26,570	26,400
	(*i*) Non-recurring (Rs. 19,200).					
	(*ii*) Recurring (Rs. 1,41,600).					
	(*e*) Bihar and Orissa for 5 years . .	90,000	15,000	11,400	14,400	14,000
	(*i*) Non-recurring Rs. (6,000).					
	(*ii*) Recurring (Rs. 84,000).					
	(*f*) Punjab for 2 years . . .	11,000	5,200	4,500	4,500	3,700
	(*i*) Non-recurring (Rs. 1,500).					
	(*ii*) Recurring (Rs. 9,600).					
10	Dry farming research scheme for the Bombay-Deccan	2,40,000	34,100	12,900	30,300	39,800
11	Dry farming research scheme in the ceded Districts of Madras	1,39,500	24,000	26,000	44,100	19,700
12	Dry farming research scheme, for the South East Punjab.	1,31,400		15,000	21,700	21,700
13	Dry farming research scheme for Hyderabad-Deccan	59,400	10,100	10,100	10,100	10,200

Serial No.	Name of Scheme.	Sanctioned grant.	Budget Estimates for 1935-36.	Actuals for 10 months 1935-36.	Revised Estimates for 1935-36.	Budget Estimates for 1936-37.	Remarks.
1	2	3	4	5	6	7	8
	B.-III.—GRANT-IN-AID—*contd.*	Rs.	Rs.	Rs.	Rs.	Rs.	
4	Appointment of a Physical Assistant on the staff of the Agricultural Chemist, Bengal— (*a*) Non-recurring (Rs. 850). (*b*) Recurring (Rs. 4,340) per annum for 5 years from 1931-32.	22,600	4,300	3,900	3,900	3,900	
5	Grant to Principal, Agra College, Agra, for investigation of Rusts of Wheat and Barley	1,89,400	44,100	39,400	46,800	47,000	
6	(*i*) Co-ordinated scheme of rice research Burma.	2,41,700	26,200	13,100	26,200	27,300	
	(*a*) Non-recurring (Rs. 35,000). (*b*) Recurring (Rs. 41,340) per annum for 5 years.						
	(*ii*) Central Provinces—	1,08,800	17,200	16,200	16,600	18,100	
	(*a*) Non-recurring (Rs. 11,000) (*b*) Recurring (Rs. 19,560) per annum for 5 years.						
	(*iii*) Bihar and Orissa— . . .	2,02,100	36,600	45,000	56,600	33,800	
	(*a*) Non-recurring (Rs. 20,000). (*b*) Recurring (Rs. 36,420) per annum for 5 years.						
	(*iv*) Assam—	1,17,900	24,700	10,000	22,200	19,600	
	(*a*) Non-recurring (Rs. 28,800). (*b*) Recurring (Rs. 22,000) per annum for 5 years.						
	(*v*) Bengal—	1,56,300	24,300	22,000	22,100	23,000	
	(*a*) Non-recurring (Rs. 33,500). (*b*) Recurring (Rs. 26,260) per annum for 5 years.						

16	Grant to the Government of Bihar and Orissa for investigations into the possibilities of manufacturing Khandsari Sugar by the Single pan method . . .	6,000	1,600	1,100	1,400	1,500
	Total Sugar Schemes . .	27,40,300	5,20,700	3,15,800	4,91,000	3,56,100
	B.—I. ENCOURAGEMENT AND IMPROVEMENT IN METHODS OF AGRICULTURE.					
	Schemes directly administered by the Council.					
	Locust control measures.					
1	Special staff for research work with headquarters at Karachi, from 1930-31 to 1935-36	4,56,700	86,300	68,800	85,000	74,300
2	Locust Committee	4,900	1,000	..	..	1,000
3	Central Locust Bureau	39,900	1,500	900	1,000	1,000
	B.—II. SCHEMES OF AGRICULTURAL RESEARCH.					
1	Fertilizers Committee	3,300	1,000	..	..	1,000
2	Statistical Section of the Bureau of Agricultural Intelligence	1,28,000	10,000	13,800	17,000	18,000
3	Indian Oil Seed Crushing Industry Committee	16,400	2,500	1,000	1,000	2,000
4	Award of a prize for a bone-crusher worked (*a*) by animal power (*b*) by mechanical power	7,000	1,000	..	..	1,000
5	Marketing scheme at Headquarters . .	1,00,000	..	700	700	..
6	Marketing scheme (Provincial portion) .	10,00,000	2,33,000	1,36,500	2,00,000	2,00,000
	B.—III. GRANTS-IN-AID.					
	Central and Provincial Governments.					
1	Botanical Sub-station at Karnal . .	2,64,000	12,400	16,100	23,100	25,300
2	Agricultural Meteorology, Poona— . . (*a*) Non-recurring (Rs. 3,000). (*b*) Recurring (Rs. 18,670) per annum for 3 years from 1932-33.	61,600	9,300*	21,300	21,300	23,100
3	Grant to the Government of Punjab for locust control measures . . .	43,600	400	6,000	6,500	6,200

* This was up to 21st, August, 1935 only. The revised estimate is for the full year.

D.—III

1	'Sub-section' of the Imperial Agricultural Bureaux'	5,100	2,500	300	300	
2	Books and Publications	47,000	7,000	4,900	5,800	7 000
3	Travelling allowance of non-official members of the Council	40,300	9,000	7,200	8,900	9,000
4	Accounts and Audit	57,000	9,900	7,500	8,800	9,500
5	Travelling allowance of visitors	23,200	6,000	3,300	6,000	6,000
6	Editorial Committee	4,400	300	500	500	1,000
7	Miscellaneous	5,800	500	800	1,800	500
8	Staff for work in connection with the several committees appointed by the Imperial Council of Agricultural Research	8,500	400	600	600	..
	Total General Schemes	6,68,300	99,700	91,200	99,900	99,800

E.—Debts and Remittances.

1	Loans and advances to Council servants	..	..	..	..	3,000
2	Deposits and advances repayable	..	..	2,800	2,900	3,000
3	Remittances of income tax, provident funds etc.	..	..	3,600	5,600	2,500
	Total Debts and Remittances	..	..	6,400	8,500	8,500
	Total Sugar Schemes	27,40,300	5,20,700	3,15,800	4,91,000	3,56,100
	Total Agricultural Schemes	49,28,000	8,21,900	6,49,600	9,00,800	8,59,800
	Total Veterinary Schemes	14,82,700	5,50,300	1,34,800	1,58,500	1,96,800
	Total General Schemes	6,68,300	99,700	91,200	99,900	99,800
	Total Debts and Remittances	..	..	6,400	8,500	8,500
	Grand Total	98,19,300	19,92,600	11,97,800	16,58,700	15,21,000

Budget Estimates of the Expenditure of the Imperial Council of Agricultural Research for 1936-37.

PART II—Sanctioned schemes which are likely to be nnanced during 1936-37.

Serial No.	Name of Scheme.	Sanctioned grant.	Approximate Budget Estimates for 1936-37
		Rs.	Rs.
1	Scheme for the investigation of tuberculosis and Johne's disease among animals at Muktesar	2,00,000	40,000
2	Tobacco research, Guntur sub-station	1,01,000	20,200
3	Application from the Imperial Institute of Veterinary Research, Muktesar, for a grant for the appointment of a research officer and staff for investigation into contagious abortion in cattle, goats and sheep.	1,44,000	28,800
4	Oil seed research schemes—		
	(a) Linseed C. P. 52,000		
	(b) Linseed Bengal 21,000		
	(c) Punjab—rape and mustard 35,000		
	(d) Madras—Groundnuts 57,000	1,65,000	33,000
5	Bengal—Application from the Government of Bengal for a grant for research into diseases of poultry	66,000	13,200
6	San Jose Scale survey in the Punjab which is needed to prevent the pest spreading to other parts of the Punjab and to the United Provinces	22,000	7,300
7	Scheme from the Government of Bihar and Orissa on the analysis of food stuff for cattle	25,000	5,000
8	Scheme by the United Provinces Government for determining the feeding values of certain food grains, oil-seeds and oil-cakes for working bullocks and dairy cattle	1,01,000	20,200
9	Fruit schemes to which funds have not been allotted but which form part of the co-ordinated whole—		
	(a) Assam 37,000		
	(b) C. P. 71,000		
	(c) Punjab 58,000		
	(d) N.-W. F. P. 27,000	1,93,000	38,600
10	Application from the Government of the Punjab for a grant for investigation of indigenous sheep-breeding	43,000	4,300
11	Application from the Government of Bombay for a scheme of research in poultry husbandry to be conducted in the Bombay Presidency	40,000	8,000
12	Central Sugarcane Insect Pests Scheme	1,49,400	44,800
13	Sugarcane breeding Sub-station, Karnal	83,300	20,500
14	United Provinces Sugarcane Seedlings Scheme	5,200	3,100
15	Dacca Seedling Testing Station	11,800	2,300
16	Bihar and Orissa Sugarcane Research Scheme	1,30,000	26,000
17	Manufacture of Cattle feed from molasses	10,000	7,000
18	Research on the structural anatomy of the Sugarcane (Dr. Ekambaram's scheme)	8,600	2,500
19	Chemistry of Sugarcane Scheme	44,700	8,400
20	Application from Government of Baroda for investigation of suitable types of cane for Gujrat	11,300	3,600
21	North-West Frontier Province Sugarcane Scheme	64,100	19,400
	Total	16,18,400	3,56,200

GIPD—M567IC of AR—1-4-36—100

D 6336 dt 22/4/36

15

To

The Secretary,
Imperial Council of Agricultural
Research, S I M L A.

Dear Sir,

I write to acknowledge receipt of your Memorandum No.F.7(1)/36/G. dated 30th March 1936 forwarding for sanction the Budget Estimates of the Council for the year 1936-37 and to convey approval to the estimates subject to the following:-- remarks

A scheme for research on fruit cultivation in Mysore State was sanctioned by the Governing Body in January 1935 but no grant for the scheme has been allotted so far. It appears from Part II of the Estimates sent by you, page 18 Serial No.9, that funds are likely to be allotted for fruit schemes to Assam, Central Provinces, the Punjab and North-west Frontier Provinces. As the scheme for research in Mysore has also been sanctioned, provision for this has ~~also~~ to be made. see the schemes

Yours ~~sincerely,~~ faithfully,

NEM

9w
21/4

Telegraphic address:—
AGRISEC.

No. F.241/34-A.

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

Simla, S. W., ~~*New Delhi,*~~ *the* 11th May 19 36

FROM

No 2n 325

N.C. Mehta, Esq., I.C.S.,

SECRETARY.

3276
5-44
C.R. & REV. SECRETARIAT
16 MAY 1936
DEVELOPMENT BRANCH

To

N. Madhava Rau, Esq., B.A., B.L.,

Member of Council,

Government of H.H. the Maharaja of Mysore

Bangalore.

Subject:- Scheme for research on fruit cultivation in the Mysore State.

With reference to your letter dated the 22nd April 1936, I am directed to say that allotment of funds for the scheme will be made during the current year and a formal letter of sanction issued shortly. Necessary Budget provision will be included in the Revised Estimates which will be circulated to the Governing Body about the close of the current financial year.

I have the honour to be,

Sir,

Your most obedient servant,

Secretary.

23 MAY 1936
DEVELOPMENT BRANCH

DS 8/5

Telegraphic address :—
AGRISEC.

No. F.241/34/A.

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

Simla, S. W., / ~~*New Delhi,*~~ *the* 9th June 1936.

6050

FROM

N.C. Mehta, Esq., I.C.S.,

SECRETARY,

13 JUN 1936
DEVELOPMENT BRANCH

G.G 65-35-1

To

The Secretary to the Government of
His Highness the Maharaja of Mysore,
Development Department, Bangalore.

Subject:- Scheme for fruit cultivation in the Mysore State.

...

Sir,

I am directed to refer to the correspondence resting with this Department letter No.F.241/34/A., dated the 29th November 1935 and to say that the scheme has been sanctioned with certain modifications, at a total cost not exceeding Rs.46,200/- spread over a period of five years (as per statement attached) on the terms and conditions mentioned in the schedule attached herewith. The modifications made by the Council are as follows :-

(1) The Scheme should be limited to two items viz. apples and miscellaneous fruit (which would include pine apples);

(2) The area of the experimental orchard for apples should be 25 acres and that for miscellaneous fruit 20 acres;

(3) That in view of the reduced area the appointment of the Assistant Farm Manager, should be postponed till such time as he is actually needed. The post has accordingly been omitted from the financial details and proposals for the appointment may be sent to this Department, when necessary.

(4) That instead of the number of foremen varying from one to four, two foremen may be appointed for the entire period of the Scheme.

(5)

18

(5) That the plant propagator should be provided for the first two years only.

(6) That as the Mysore Department of Agriculture already has good Mycological and Entomological Sections, it should not be necessary to appoint an Assistant Mycologist and an Assistant Entomologist, but that one Scientific Assistant on Rs.75-5-100 should suffice along with one laboratory attendant.

(7) That only one clerk should be provided and that no store keeper is necessary.

(8) That a sum of Rs.100/- per acre per annum or Rs.22,500/- for the entire period of the Scheme for 45 acres should be provided by the Council for maintenance charges including labour, manure, plant, seeds etc.,

Relevant extracts from the Sub-Committee's report are enclosed for information.

2. I am to add that the qualifications proposed for Farm Manager and the Assistant Farm Manager (when sanctioned) and the proposals for the technical control and supervision of the work contained in paragraphs iv and v of your letter No.D.1254/A & E 90-32-48, dated the 17th August 1934 are approved.

3. A copy of the general instructions regarding the planning and interpretation of manurial experiments which the Imperial Council of Agricultural Research desires to be observed in respect of all schemes financed by it is also enclosed for information and necessary action.

4. If the grant on the terms and conditions mentioned above together with the modifications made by the Council, is acceptable to the Government of Mysore a detailed technical programme of work for the scheme should be submitted for the approval of the Council together with the intimation as to the probable date of the starting of the scheme and the amount required for expenditure during the current financial year.

I have the honour to be,
Sir,
Your most obedient servant,

Secretary.

M.H.
5.6.

Extract from the Report of the Fruit Research Sub-Committee held on 5th September 1834.

19

* * *

In the opinion of the Sub-Committee having due regard to the work which is already in progress on other fruit research schemes or which has recently been sanctioned, this scheme should be limited to two viz. apples and miscellenous fruit (which would include pine-apples). It does not consider that work in Mysore on grapes, citrus and mangoes need be financed by the Council. The area of the experimental orchard proposed for apples, is somewhat too small and should be increased to 25 acres, that for miscellaneous fruit being fixed at 20 acres making a total under fruit cultivation of 45 acres instead of the 100 acres originally proposed. It is understood that at least 40 acres can be planted up in the first year.

It will be noted that the Mysore Government is providing all non-recurring expenditure in connection with the scheme.

Financial details.- In view of the reduced area, the appointment of an Assistant Farm Manager may be postponed until necessity arises. Instead of a number of Foremen varying from one to four the Sub-Committee recommends that two be appointed for the whole period. The Plant Propagator should be provided for the first two years of the Scheme only. As the Mysore Department of Agriculture has strong Mycological and Entomological section, it is considered unnecessary to appoint an Assistant Mycologist and an Assistant Entomologist for this Scheme but one Scientific Assistant (grade Rs.75-5-100) will be required and also one Laboratory Attendant. The Sub-Committee recommends that only one clerk be provided and no storekeeper.

Subject to the above amendments which reduce the cost to about Rs.43,000 the Sub-Committee recommends that the scheme be sanctioned.

Secretary to the Government of
Development Department.

Sir,

I have the honour to forward herewith a scheme for a fruit research station, approved by the Imperial Council of Agricultural Research.

2. I have the honour to be, Sir, your most obedient servant,

[illegible]

[illegible] Scheme for a fruit research station.

[illegible] Imperial Council of Agricultural Research.

[illegible] Letter No. [illegible] dated [illegible].

[illegible] beyond cultivation and preparation of soil to fit it for [illegible] the one advised by the Imperial Council of Agricultural Research, [illegible] forwarded for the kind consideration of Government.

[illegible]

[illegible] Government cannot take into consideration only [illegible] [illegible] and miscellaneous fruits, for the [illegible] fruit [illegible] Indian citrus fruits are very important commercial crops [illegible] [illegible] cultivation from here are well known in the [illegible] [illegible] Government to preserve and improve varieties of these crops. [illegible] Imperial Council of Agricultural Research has not taken into consideration these important crops of the State, the Government will have to take it for cultivation at an early date. It is desirable that experiments connected with improved crops viz. [illegible] fruits should be conducted in a site adjoining the fruit research station, [illegible] with the help of the staff of the Research station, the maintenance charges being [illegible] regarding them.

The Scheme originally submitted by us was worked out for a total sum of Rs 1,83,000/-, out of which the contribution from the Government of Mysore and Imperial Council of Agricultural Research were as follows :-

1. Government of Mysore .. Rs 95,000/-
2. Imperial Council of Agricultural Research.. 88,000/-

As it now stands, the contributions will alter considerably. Only 40 acres have been suggested for cropping, setting apart 25 acres for apple, 3 acres for Pine apple and 17 acres for Miscellaneous crops. Further changes also have been made in the Staff and working expenses in proportion to the reduced area.

The Scheme is sanctioned only for five years by which time it is possible to expect only some interesting results in Apple and Pine apples. The plants under Miscellaneous crops would be still growing, and most of them will not have reached the st of bearing. In case the Imperial Council of Agricultural Researc does not continue or cease paying the full amount now sanctio the Government of Mysore should consider the question of sanctio the extra expenditure for continuing the experiments.

S I T E .

The location of the Fruit Orchard for experiments seems to have been considered fairly well both by Mr L.C. Krumbiegel and Mr H.C. Javaraya. The selection of the Grand Valley Estate was set aside on account of its position in an open valley with n proper communications. Of the other two sites, plot near Silk and field found about Doldevanhalli, Mr Krumbiegel was more in favour of the lands near Lalbagh. The lands in Doldevanhalli ar no doubt very near the Pumping station and the buildings belongi to it. They are also situated at the tail end of the Duct Channe It will supply water by gravitation. Since it was not finally decided regarding the choice of the area, for the work, we went and examined the plots once again.

Soldevanhalli lands are on the top of the ridges sloping on three sides to the bank of the Arkavathi river. The Railway cutting on the eastern side clearly shows that the crops of rocks is very near the surface soil, thereby providing only very shallow soil for fruit trees which is very prejudicial for their growth. The well in the plot itself reveals a very shallow soil overlying a thick layer of heavy clay and possessing a fairly high water table. The whole plot seems to be alkaline in nature and a strip of nearly 50 yards along the bank of the river and the nullah is distinctly alkaline similar to the conditions existing on the banks of the Vanda river. The bed of the river clearly indicates the shallow soil overlying heavy stiff clay. A portion of the area proposed to be selected is now under a heavy growth of Casuarina. The experiments that are to be laid out require land with a uniform soil and subsoil for statistical interpretation of results about which the Imperial Council of Agricultural Research is very particular. For these reasons, we consider that this particular piece of land is highly unfit for working of the Fruit Research Scheme.

8. The area selected near Lalbagh seems to be better and richer land than the Soldevanhalli fields, as per the Report made by the Department of Agriculture on the chemical examination of the soils. It is very near the Horticultural Farm and the Lalbagh providing great facilities for the location of buildings and supervision, but the main defect is that for irrigating 45 acres of orchard, we require nearly 12,000 gallons of water per hour for 12 hours every day. With the help of the ---- Agricultural Engineer, we worked out this problem and find that in this locality it is not possible to supply so much water by pumping from wells. In the first instance, one well cannot supply so much water. We will be forced to have several wells with several units of pumping plants all being located at the lower end of the valley and pumping up the ridge. Borehole trials in this area seem to indicate that there not much water to be tapped even in the lower strata. However, good soil may be and the facilities that are nearby this area on the score of dearth of water alone should be ruled out of considerations. Further the location of the Dental Hospital, the possibility of extension of the town and the heavy value of land also will have to be taken into consideration.

As the above sites are not suitable for starting the -- Fruit Research Station, areas under Krishnarajasagara and the Irwin Canal Farm near Mandya were also considered. Since this scheme is confined to Apples and Pine apples, they also are not quite suitable on account of their lower elevation than the -- Bangalore plateau. The experience we have of the apple crop at Lalbhuvans at Mysore and in other private estates is that Apples cannot be grown as successfully in those lower elevations as we can in the higher elevated plateau of Bangalore.

Hesaraghatta Water Works would on the release of water supply to Bangalore affords plenty of water to an orchard and being in an area which has a similar environmental condition like Bangalore seems to be the only place where the scheme could be satisfactorily worked. We went round the area between the Pumping Station and the Hesaraghatta Reservoir for selecting a site. We find that a vast stretch of flat land with gentle slope opposite the Rest House near the Reservoir is highly suitable and ideally situated for the -- Experimental Orchard. More than fifty acres are available in one block lying between the road on one side and the gravitation Aqueduct - channel on the other. The soil is good loam lying over a very deep strata of red loam laterite. Preliminary chemical examination also indicates that the subsoil and soil here are much richer than the other soils or the places which were proposed for the Fruit Research Station. Pumping water to the head of about 40 ft from the Aqueduct - channel would provide us an unlimited supply of water for irrigation. The distance to which the water should be pumped will be less than ½ furlongs, and the Rest House will provide halting facilities for the Inspecting Officers, and all the buildings in the Pumping Station belonging to Civil and Military Station, Bangalore, which we are told will be taken over by the Government of Mysore, will provide space for locating Offices, Laboratories and Quarters. These buildings will be nearer to the Orchard than the Goldavanhalli buildings by nearly a Mile. Only a Field Laboratory and Cattle - shed will have to be built on the site of the orchard. We have, - on the assumption that the new plot will be selected, drawn rough

valued the cost of buildings but they will have to be properly - evaluated by the Engineering Department in order to calculate -- exactly the contribution of Government of Mysore in this respect.

Regarding the acquisition of land in all cases so far proposed for the purpose, it will have to be acquired by Government from private parties. Those lands near the Rest House of the Hosahalli Reservoir are located in the Jodi village of Hivarkhandapur and the valuation of the lands as reported by the Deputy Commissioner is about ₹ 200/- to ₹ 250/-. In case the new site is approved by - Government, arrangements should immediately be made to acquire them. The scheme with the alterations now suggested by us will work up t a total cost of ₹ 1,69,919/-, out of which the Imperial Council of Agricultural Research will provide ₹ 46,200/- and the contribution of Government of Mysore will be ₹ 1,23,719/-. The details are giv in the tabular statement No. I and II.

(i)	Land, Buildings, Equipment &c. ..	₹ 73,300/-
ii)	Extra Recurring Expenditure ..	50,419/-
	Total:-	₹1,23,719/-

Experiments.

Regarding the experiments the following scheme is proposed tentatively. All the plots will be laid out in the Latin square - Method or the Strip Method to provide facilities for statistical interpretation of results.

Apples.

I. Varietal Tests:- (a) Ten of the most important variation will be tested under Latin square Method, with ten plants in each plot -- planted 15'x 15'.

The area required is 4 acres.

(b) Preliminary Trials:- Eight new introductions will be tested in Strip Method with Some Beauty as check after -- every eight varieties; planting ten plants in each row.

The area required is 6 acres.

II. Manurial Experiments:-(a) Three

II. Manurial Experiments :-

(a) Cheap manure alone will be tested against NK, NP, PK, and NPK in the Latin Square Method, with ten plants in each plot.

The Area required is 2 acres.

The experiments will be conducted on the variety Rose Beauty.

(b) Varying the Dosage of complete manure on Rose Beauty with five different doses in Latin Square Method.

The Area required is 1 acres.

III. Testing Rose Beauty on different stocks in Strip Method:-

The Area required is 4 acres.

IV. Irrigation Experiments:- Experiments in irrigation at intervals of 3,6,9,12,and 15 days will be laid in Latin Square Method

The Area required is 2 acres.

V. Pollination Experiments:-

Mixed varieties Vs. Pure crops with six varieties in Latin Square Method.

The Area required is 4 acres.

VI. Experiments in Thinning:- Lorreos of Thinning in Strip Method.

The Area required is 4 acres

Total:-25 acres.

Pine Apples.

(a) plants will be planted in rows 3' apart and 1' in the row taking 144 plants per plot, 1 gunta in extent.

(i) Varietal Tests:- Six varieties will be tested under Latin Square Method. The Area required is 1 acre.

(ii) Manurial Experiments:- Same as in Apples with Queen Variety.

The Area required is ½ acre

(iii) Irrigation Experiments:- Same as in Apple with Queen Variety.

The Area required is ½ acre.

(iv) Spacing Experiments - Queen Variety.

The Area required is ½ acre.

Total; 3½ acres

P.T.O.

(b) As the Pine apple will be left on the land for 3 years only and replanting another block of 5½ acres will be set apart forthis purpose and in the interval that plot will be dropped with the -- following plants:-

1. Papaya
2. Strawberry
3. Raspberry
4. Loganberry
5. Cape Gooseberry
6. Currants

These crops will be transferred after three years to the block vacated by Pine apple.

Total area of the two blocks for Pine apples .. 6½ acres

Miscellaneous Crops.

The remaining area of 14½ acres will be planted with the following fruit trees.-

1. Sapota varieties
2. Jak "
3. Anona " Custard apple & Ramphal.
4. Komarao varieties
5. Avocado
6. Zizyphus
7. Fig
8. Mangosteen
9. Guava varieties
10. Pomegranate "
11. Loquot
12. Rose apple
13. Eugonia malaccensis
14. Bael
15. Litchi
16. Breadfruit.

The actual expense of cultivation for a unit area of one acre for apples, pine apple and Miscellaneous crops are given in - tabular statements Nos. IV, V, VI, which work up to Rs 800/-, Rs 240/- and Rs 90/- respectively.

The difference between the allotment made by the Imperial Council of Agricultural Research and our proposal are due to the following reasons

1. While the Imperial Council of Agricultural Research has -- allowed the employment of the Plant Propagator for two years, we have proposed to employ him for the whole period of the scheme, as the -- propagation will continue for replacement and multiplication of ---- desirable varieties. .. .. .. Rs 2340/-

2. Since a large amount of fruit will be coming in from the - fourth year and several thousands of rupees worth of fruits are expected after the fourth year, a Storekeeper seems to be necessary and highly advisable. Rs 1200/-

3. A Driver to attend to the pumping plant - has been provided by us - Rs 1800/-

4. Leave Allowances which have been left out in the original scheme, have been provided for.. Rs 2570/-

5. A small sum has been set apart for -- Travelling Allowance .. .. Rs 1000/-

6. Contribution towards Provident Fund has now been provided for (6% from the Government) 6% of the Pay. .. .. Rs 2004/-

The difference in the allotment for labour is .. Rs 5755/- The allotment required is Rs 26,225/-, and the allotment provided by the Imperial Council of Agricultural Research is Rs 32,500/-. This is due to the fact that in Bangalore, we have two crops per year of apples compared with only one in the temperate climate, and that in these regions apple is an irrigated crop requiring more attention and labour.

For the recurring expenditure Rs 98,619/- are needed for five years distributed as follows :-

1st Year	..	Rs 21,584/-
2nd Year	..	17,905/-
3rd Year	..	17,287/-
4th Year	..	19,477/-
5th Year	..	20,373/-

against which the Imperial Council of Agricultural Research has sanctioned Rs 46,200/- Either the Imperial Council of Agricultural Research should be requested to sanction the additional allotment or the Government of Mysore should provide for this.. 50,419/-. All other proposals made by the Imperial Council of Agricultural Research in Item Nos. 1,2,3,4, & 7 can be accepted by the Government of Mysore.

In conclusion, we beg to submit that we have gone through every item in detail and worked out the minimum requirements for successfully working out the scheme. If the Scheme is sanctioned during 1938 - 39, plants from Europe and America will be ordered for and paid during this official year alone. Plants from Australia

will arrive only in the next official year. The initial expenditure amounting to ₹ 77,700/- in connection with lands, buildings and -- equipment etc., will have to be met by the Government of Mysore - during the year 1936 37 alone and also make provision of ₹ 50,419 in case the Imperial Council of Agricultural Research is not prepar to grant additional sums over and above what it has already approve now.

At the end of the five years the probable financial position may be as follows.-

	Maximum.	Minimum.
1. Total Expenditure	169919/- ..	₹ 169919/-
2. Total Receipts	32000/- ..	39500/-
Net Cost:- ₹	137919/- ..	130419/-

A large production of Apples and the Pine apples on such an orchard will be hard to market locally and will entail a great deal of care and expenditure in packing and marketting for which the Government of Mysore may kindly make arrangements with the Department of --- Industries and Commerce. Otherwise, adequate space will have to b provided for storing over a hundred tons of fruits in cool airy - store-houses and provide facilities for transport and marketing.

We have the honour to be

Sir

Your most obedient servants,

Sd/ [illegible]

REVISED ROUGH SCHEME FOR A FRUIT SCHEME IN MYSORE STATE.

level piece of land of fifty acres in extent having a general slope to the North with a deep rich red loamy soil and subsoil -- very near the West House which is close to the Hessarghatta Reservoir in the Jodi village of Alvarkhandapur is selected for the orchard, the average value of the land has been estimated between ₹ 200/- and ₹ 250/- by the Revenue Department. The elevation and the rainfall are and 25.7" respectively and the climatic conditions are similar to those existing in Bangalore.

The Duot channel provides water for irrigation and that the pumping plant will supply the water the electric power being extended from Doddevanhalli. The buildings of the Civil and Military Station, Bangalore, will provide space for Officers, Laboratory, Store House and Quarters. ~~on~~ On the orchard, cattle and potting shed and a field Office will be built.

The nearest Railway Station is Chickbanavar on the Bangalore - Poona line about 15 miles from Bangalore. The Laboratory and the Orchard are about 18 miles from Bangalore and approached by good metalled road.

There are no apple orchards within five miles at least and this provides safety against any disease or insect spreading quickly - from the variety plots and if any disease or insect happens to be - accidentally introduced through the exotics, a perfect control could be kept over them in this locality.

The financial aspect of the Scheme as revised now is as -- follows :-

Ref to Garden w/s Dr. MM 2/12 Land

ABSTRACT ESTIMATE.

Cost to be met by the Government of Mysore.

1.	40 acres at ₹ 250/- per acre. 5 acres for planting & 5 acres for Roads and Buildings	₹ 12,500/-
2.	Quarters and Buildings with alterations ...	41,000/-
3.	Permanent equipment and maintenance ...	19,000/-
	Total:-	73,500/-

Recurring Expenditure.

1. Establishment	36,414
2. Laboratory & Stores equipment..	5,500
3. Plants and seeds	8,000
4. manures	4,500
5. Tools and Implements	2,250
6 Electric Power	3,000
7. Cattle and Cattle field	8,700
8. Contingencies	5,000
9. Cultivation charges including labour for 45 acres.	20,855
Total:₹	96,619/-

R e c e i p t s

Receipts from Apples, Pine apples mainly are anywhere from -- ₹ 39550/- to -₹ 71257/-. The Net cost of the Scheme in the end will be only the difference between the working expenses in addition to the interest on the outlay of ₹ 77300/- and the Recurring expenditure of 96,619/-.

If the season and the crops are good, the net expenditure will be ₹ 45000/- spread over for five years, working out to about ₹ 9000/ per annum.

The Imperial Council of Agricultural Research has sanctioned - towards the Scheme to meet the working expenses the sum of ₹ 45,000/- A balance of ₹ 60,419/- will have to be provided for starting the wor

The details of the cost of the Scheme and the cost of cultivatio of the various crops are given in the tabular statements given below:

I, Estimate of cost for Mysore Government	₹ 77,300/-
II, Recurring charges	96,619/-
III Probable Receipts - Maximum and Minimum ..	39,550/-to ₹ 71,257/-
IV. Cost of cultivation of Apples per acre ..	200/-
V. Cost of cultivation of Pine apples per acre..	140/-
VI. Cost of cultivation of Miscellaneous crops and cover crops...	80/

since mangoes, citrus fruits and grapevines are very important commercial crops of the Mysore State, it is desirable that the Experi Connection with these crops also be conducted in a suitable manner the

the Fruit Research Station with the help of the
staff of the Research Station, the maintenance
charge which being met by the Coal Myrtle

STATEMENT I.

Estimate of cost to be met by the Government of Mysore.

No.	Particulars.	Amount.
I.	LAND. 50 acres - 45 acres for cropping. 5 acres for buildings, land etc @ Rs 250/- per acre.	Rs 12500
II.	BUILDINGS. (a) Farm Manager's Quarters, Rs 5000/- (b) Scientific Asst. do 3000/- (c) Foreman, Plant Propagator, Clerk, Storekeeper (4 buildings) 6000/- (d) Quarters for Menial staff, 2000/- (e) Office, Stores & Laboratory. 20000/-	36000
	10% of Rs 38000/- for alterations & repairs..	3800
III.	EQUIPMENT. (a) Fencing - 45 acres	3000
	(b) Formation of Land, pitting and layout of plots ..	2000
	(c) Storage tank	2000
	(d) Cattle shed	1000
	(e) Potting shed and Propagating Frame..	2000
	(f) Implement shed and Field Office ..	1000
	(g) Pump with pipe connections ..	2000
	MAINTENANCE. Maintenance of roads and buildings ...	2000
	Total Rs 73300/-	

STATEMENT II.

Recurring Expenditure for the Scheme to be met both by the Imperial Council of Agricultural Research & Mysore Government.

	No.	Particulars	1st year.	2nd year	3rd year.	4th year.	5th year.	Total.
(a)	1.	Farm Manager (100-10-150)	1200	1320	1440	1560	1680	7200
	2.	2 Foremen - 2 (40)	960	960	960	960	960	4800
	3.	Plant Propagator (50-5-75)	600	660	720	780	840	3600
	4.	Scientific Asst. (75-5-100)	900	960	1020	1080	1140	5100
	5.	Laboratory Assistant 1 (20)	240	240	240	240	240	1200
	6.	Clerk (35-5-60)	420	480	540	600	660	2700
	7.	Storekeeper 1 (60)	600	600	600	600	600	3000
	8.	Driver 1 (30)	360	360	360	360	360	1800
	9.	Peons - 2 (12)	288	288	288	288	288	1440
	10	Leave Allowances	404	489	514	539	564	2570
	11.	Travelling Allowance	200	200	200	200	200	1000
	12.	Provident Fund	363	381	401	420	440	2004
		TOTAL:-	6594	6938	7283	7632	7972	36414
(b)	1.	Bullocks - (6 pairs)	1200	..	..	..	..	1200
	2.	Laboratory equipment	2000	..	..	..	..	2000
	3.	Stores, equipment, rack &c.	..	..	500	1000	2000	3500
	4.	Plants and Seeds etc.	4500	3000	200	200	100	8000
(c)	3.							
	1.	Manure	500	1000	1000	1000	1000	4500
	2.	Tools & Implements	1000	500	250	250	250	2250
	3.	Electric Power	600	600	600	600	600	3000
	4.	Fodder & Concentrates	1500	1500	1500	1500	1500	7500
	5.	Contingencies	400	40	400	400	400	2000
		TOTAL:	11700	7000	4450	4950	5850	33,950

P.T.O.

Particulars.	1st year.	2nd year	3rd year	4th year	5th year	Total.
(a) Cultivation charges for - 41 acres.-						
I. Apples - 35 acres.						
(a) Cost of planting - including filling up of pits ..	350 (10 acres)	540 (15 acres)	..	..	..	900-
(b) Annual maintenance ..	350	1875	4000	5000	5000	16225
2. Pine apples - 3½ acres.	1050	700	700	1050	700	4200
Miscellaneous crops - 17 acres ..	1530	850	850	850	850	4930
TOTAL:- Rs	3280	3965	5550	6900	7550	26271
GRAND TOTAL:- Rs	21684	17903	17283	10477	20378	98619

STATEMENT. III.

Receipts from Apples, Pine apples and Miscellaneous crops.

No.	Particulars.	1st year.	2nd year.	3rd year	4th year.	5th year.	Total.
I.	APPLES:						
	Quantity in Dozens..			..	33200	41800	
	Value :-						
	8 as. per day. Maximum				R.16600	R.20900	R.37500
	6 as. per day. Minimum				R.12500	R.15500	R.28000
II.	PINE APPLES.-						
	Quantity in Number..	17250	17250	..		17250	
	Value:-						
	4 as. per fruit.. Maximum ..	4375	4375	..		4375	13125
	3 as. per fruit.. Minimum ..	3450	3450	..		3450	10350
III.	MISCELLANEOUS FRUITS & COVER CROPS.						
	Value :-	50	100	150	400	500	1200
	Maximum..	50	4475	4525	13000	25775	51825
	Minimum..	50	3550	3600	12,900	19,450	39550

Total Recurring Expenditure:- R 96,419/-

Total Receipts :- R 39,650/- to R 51,825/-

To be credited to the Government of Mysore and the Imperial Council of Agricultural Research in proportion to funds provided by them).

STATEMENT. IV.

Estimate of the probable cost of the Initial Expenditure require for planting an acre of Apples.

Number of plants per acre at 20'x 20'=109)

No.	Details of work.	Amount.
1.	Ploughing and Harrowing thrice	7- 8-0
2.	Excavation of pits 3' cube at 8 pits per Rupee ..	1- 0- 0
3.	Manure for filling in the pits at 8 baskets per pit (7 cartloads) ..	14- 0- 0
4.	Filling pits with manure, sand etc at one anna per pit.	6- 8- 0
5.	Cost of 109 plants at Re.1/- each	109- 0- 0
6.	Planting and watering	5- 0- 0
	Total:Rs	151- 0- 0

Estimate of the probable cost of maintaining one acre of Apple - crop per Half year.

No.	Details of work.	Amount.
1.	Ploughing and Harrowing ..	7- 8- 0
2.	Digging of the basins (20 men	10- 0- 0
3.	Forming basins and water channels	5- 0- 0
4	(a) Manure at 2 baskets per plant (7 cartloads)	14- 0- 0
	(b) Fertilisers at 2½ lbs per tree (272 lbs)	18- 8- 0
5.	Manuring, mixing, distributing etc	15- 0- 0
6.	Irrigations (26)	26- 0- 0
7.	Weedings (2) 10 women per weeding	7- 8- 0
8.	Atoning the crop for three months	24- 0- 0
9.	Harvesting and storing (Harvesting season extends for- over a month) ..	8- 0- 0
	Total:-Rs	170- 8- 0

The crops are got twice annually and the same operations have to be repeated twice.

The cost of maintenance per annum, therefore, would be about 340/- from the fourth year.

STATEMENT V.

Estimate of the probable cost of the Initial Expenditure - required for planting one acre of Pine apple

Number of plants per acre at 4x 3'x 3'= 4840 or 5000 plant

No.	Details of work.	Amount.
1.	Ploughing thrice and harrowing	7- 8- 0
2.	Trenching - 20 Men	100- 0- 0
3.	Manure 10 cartloads	83- 8- 0
4	Cost of plants at 8 suckers per one Rupee.	500- 0- 0
5	Planting and watering at 4 Men and 10 Women for - 5 days.	30- 0- 0
	Total:-Rs.	675- 0- 0

Estimate of the probable cost of maintaining one acre of - Pine apple crop per Annum.

No.	Details of work.	Amount
1.	Digging one acre and clod crushing (32 men and 16 women)	20- 0- 0
2.	(a) Manure 10 cartloads at 1-8-0 per cartload	15- 0- 0
	(b) Honney cake 4 ton ..	22- 8- 0
3.	Manuring and mixing 2 Men and 8 women for about a week.	21- 0- 0
4.	Formation of furrows - 10 Men ..	5- 0- 0
5.	Irrigations(40) ..	40- 0- 0
6.	Interculturing and weeding (8) at 10 Women per weeding.	20- 0- 0
7.	Watering, harvesting etc - 1 Man at Rs 6/- p.m.	90- 0- 0
	Total:-Rs	233- 8- 0 or
	£	240/-

STATEMENT VI.

Estimate of the probable cost of the Initial Expenditure required for planting an acre of Miscellaneous fruits such as Loquot Litchi etc

Number of plants per acre at 25'x 25'= 69.

No.	Details of work.	Amount.
1.	Ploughing thrice and Harvesting	₹- 8- 0
2.	Excavation of pits 3'cube at 3 annas per pit.	8- 0- 0
3.	Manure at 2 baskets per tree at 1-8-0 per cartload (4 cartloads)	6-12- 0
4.	Filling pits at one anna	4- 5- 0
5.	Cost of plants at 8 annas per plant on average	69- 0- 0
6.	Planting and watering	3- 0- 0
	Total:-	₹ 98- 9- 0 or ₹ 100/-

Estimate of the probable cost of maintaining one acre of Miscellaneous fruits such as Loquot, Litchi, Pear etc.

No.	Details of work.	Amount.
1.	Ploughing and Harrowing	7- 8- 0
2.	Digging of the basins - 9 Men	4- 0- 0
3.	Forming basins and water channel - 10 Men	5- 0- 0
4.	Manure at 2 baskets per tree (4 carts at 1-8-0 per cart) ..	6-12- 0
5.	Manuring and mixing ..	10- 0- 0
6.	Irrigations (36) ..	36- 0- 0
7.	Weeding (4) - 40 Men ..	10- 0- 0
8.	Watching - 1 Man on ₹ 8/- p.m. for 3 months ..	24- 0- 0
	Total:-	93-12- 0

Appendix F G—1]

SUBJECT..... 21

.....

.....

Immediate

Section G.G

File No. 65-35

Serial No. 2

Diary No. of letter replied to.....

No. D. 7943/enel

To The Secretary, Fort Sandeman

Lt.

General and Revenue Secretariat

( )

the *193*

I am directed to forward herewith a copy of letter F 241/36.A dated the 9th June 1936 and to enclose with copies of its enclosures and to request you to kindly forward in consultation with the Director of Agriculture a detailed technical programme of work for transmission to the Imperial Council of Agriculture

Date of issue 30/6/36

Signed by Mo. 30.6.36

List of enclosures.....

Copied by .....

Examined by.....

(together with particulars as to the probable date of starting the scheme & the amount required for expenditure during the current financial year)

WD 3601—GPB—30,000—23-9-35

Records for approval. VV

... I am also to request that the
Secretary may kindly be informed steps to reach
this office not later than the 15th
July 1936

Thanks

29/6/36

for Secretary

Memo. D 7944 dy 30.6.36.

Copy of the above is forwarded with
Compliments to the Dy Director of Agriculture in Kenya
for information & necessary action

A copy/letter ~~dated~~ enclosing ~~from~~ the
Hon Imperial Chemical Agr Research are sent
enclosed ~~herewith~~ for reference.

B. O

29/6/36

for Secretary

23

Annexure

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat

No. D 7943

Dated, Bangalore, 29th June 1936.
30

From

The *General Secretary to the Government of His Highness the Maharaja of Mysore.*

To

The Superintendent,
Government Gardens in Mysore,
Bangalore.

Sir,

I am directed to forward herewith a copy of letter F.241/34A dated the 9th June 1936 together with copies of its enclosures received from the Secretary to the Imperial Council of Agricultural Research, Simla sanctioning with certain modification the Scheme for Fruit Cultivation in Mysore State and to request you to kindly forward within a fortnight in consultation with the Director of Agriculture a detailed technical programme of work together with particulars as to the probable date of starting the scheme and the amount required for expenditure during the current financial year for transmission to the Imperial Council of Agricultural Research for approval.

I have the honour to be,

Sir,

Your most obedient servant,

Sd. M. Venkatesa Iyengar,

General Secretary to Government.

Memo No. D 7944

Dated, Bangalore, 29th June 1936.
30.

Copy of the above is forwarded with compliments to the Director of Agriculture in Mysore for information and necessary action.

Copies of letter from the Secretary, Imperial Council of Agricultural Research, and its enclosures are sent enclosed for reference.

By Order,

30/6

for General Secretary to Government.

Appendix F G—1]

24

SUBJECT.....

.....

.....

Section G.G

File No. 65-35

Serial No.

Diary No. of letter replied to.....

No. D1343

To Sir

Dear Mr Sitaram Shetty

In connection with the scheme of fruit cultivation in Mysore the Imperial Council of Agricultural Research. I am desired to state that the Deputy Member of Council desires to see you tomorrow the 18th instant. I am to request you to kindly arrange to meet him in his Chambers tomorrow at 3.30 P.M.

General and Revenue Secretariat

( )

the *193*

Date of issue 17/8/36

Signed by Mr. K.S.R.

Yours truly

Sd/-

17.8.36

List of enclosures.....

M.K Sitaram Shetty Esq. B.A.

Deputy Govt Secretary

Bangalore

Copied by .....

Examined by.....

No. 00353
Enc.

21 AUG. 1936
DEVELOPMENT BRANCH

OFFICE OF THE SUPERINTENDENT,
GOVT. GARDENS IN MYSORE,
LAL-BAGH, BANGALORE.

Dated.....21.....August.....193 6.

970

FROM

M. K. SITARAM CHETTY, ESQ., L.Ag.,
Superintendent, Government Gardens in Mysore,
Bangalore.

To

M.Venkatesa Iyengar, Esq., M.A.,
Secretary to the Government of
His Highness the Maharaja of Mysore,
General Department,
Bangalore.

Subject:-
Scheme for Fruit cultivation in the Mysore State.

G.G 65-35-3

Sir,

With reference to your letter No.7943/G.G. dated 30-6-1936 on the above-mentioned subject calling for a detailed technical - programme of work and other particulars, I have the honour to state that the Scheme as approved by the Imperial Council of Agricultural Research in their letter No. F 241-34A. dated 9-6-1936 proposes an extent of 45 acres to be taken up, of which 25 acres come under -- Apples and 20 acres under Miscellaneous fruit including Pine apple at a total cost not exceeding Rs. 46,200/- spread over a period of five years. But since it is found that the provision of Rs. 100/- made -- towards maintenance charges per acre by the Imperial Council of --- Agricultural Research is not sufficient it is not possible to take up the 45 acres as approved at present, within the amount sanctioned -- as a sum of Rs. 200/- per acre per annum would be the minimum provision required for maintenance. It is therefore proposed to take up the cultivation of Miscellaneous fruits along with the other Schemes for Mangoes, Citrus and Grapes which have already been drawn up and --- submitted to Government by Mr G.H.Krumbiegel, the then Director of - Horticulture in Mysore. The total extent of the present Scheme will thus be confined to 30 acres of which 25 acres are to be Apples and the remaining 5 acres under Pine apples, in which case the amount of Rs. 46,200/- may be sufficient, not including however, the cost of plant

96

plants, seeds, tools etc, which must be met by the Government of Mysore.

No provision is however made by the Imperial Council of --- Agricultural Committee in the total sum of Rs. 46,200/- for items such as Leave and Travelling Allowances and Provident Fund for the Staff employed on the Scheme. The minimum provision of Rs. 5,000/- will be necessary for these items over and above Rs. 23,760/- ----- sanctioned by the Imperial Council of Agricultural Research for the Staff and unless the Imperial Council of Agricultural Research - agrees to the additional sum, the Government of Mysore will have to provide for the same.

After the fourth year of the Scheme, it will be necessary to arrange for the economic disposal of the fruits produced in the - Orchard, for which a carefully thought-out Scheme for marketing - will be required. But along with the scheme mentioned in para 1 - above, a Scheme comprising of the Erection of a Cold Storage, a - Packing Shed, Grading Equipment, Auction Room etc has already been formulated and this will also have to be considered by the --- Government when the time comes.

The sale proceeds realised from the working of the Fruit - Scheme will have to be distributed at the end of each year between the Imperial Council of Agricultural Research and Mysore Government in proportion to the Capital invested.

If the modifications suggested above meet with the approval of the Imperial Council of Agricultural Research, the other --- conditions mentioned in the letter under reference may be accepted.

In regard to the Site for the Fruit Research Station, a -- piece of land 30 acres in extent having a gentle slope with a deep loamy soil and sub-soil has been selected in close proximity to the Lalbagh and the Horticultural Experimental Farm with a view to - facilitate efficient control and supervision and also easy access for the visitors who are interested in Horticulture. The value of the land has been estimated at Rs. 500/- per acre by the Revenue - Department. The 30 acres of the orchard would at this rate cost - Rs. 15000/- as per estimated provision.

The source of water for this orchard would be the three -- existing wells equipped with Pumps of suitable discharging capacity. Due provision for the Storage tank, pumps, etc amounting to Rs 10000/- has been made in the Estimate (Vide Appendix A.)

The buildings belonging to the Lalbagh such as the Barn in the Horticultural Farm, Old Herbarium, and Horticultural School and - Bureau of Economic Botany buildings, etc can be made use of for the Fruit Research Station, as they are suitable for the purpose. These are shown in Appendix A. A few new buildings such as Sheds for - Watchmen and Implements, and necessary alterations to other --- buildings have also been provided for in the Estimate to the extent of Rs 4000/-.

Details of the Experiment.

Regarding Experiments, the following scheme is proposed --- tentatively. All the plots will be laid in Latin Square Method or the Strip Method to provide facilities for statistical interpretation of results.

Details.	Acres.
APPLES.-	
I. Experiments in Stock :-	
a. Raising and selection of local Stock ..	2
b. Testing of Rome Beauty on ten different existing ~~stocks~~ imported stocks	4
II. Varietal Tests :-	
a. Ten of the most important varieties will be tested under Latin Square Method with ten plants in each plot planted 15'x 15'..	4
b. Preliminary trials :- 80 new introductions will be tested in rows with Rome Beauty as ~~check~~ check after every 8 varieties, planting ten plants in each row	5
III. Manurial Experiments :-	
a. Ten manures consisting of bulk manure such as- Sheep manure, Farm-yard Manure and Oil-cake, and artificial manures - N.,P.,K., NP.,PK.,NK.,NPK., will be tried in the - Latin Square Method with ten plants in each - plot of the variety Rome Beauty	5

		Acres.
	III. b. Dosage trials of artificial manures :- or normal	
i.	Full/Dose of the Mixture	
ii.	Half Dose of the Mixture	
iii.	One-and-half Dose of the Mixture ..	1

Plots will be arranged in Strip Method with four replications.

IV. Experiments in Irrigation :-

a. Method of Irrigation :-
Ring Method VS. Furrow Method .. 1

b. Period of Irrigation :-
3,6,9 days of intervals .. 1

Plots will be arranged in Strip Method with four replications.

V. Pollination Experiments :-

These experiments will be conducted on the plants in the Varietal plots, half the number of plants being left open for natural pollination and the other half for controlled pollination.

VI. Experiments in Thinning :-

These Experiments will be conducted in the manurial plots.

VII. Reserve plot :-	2
Total :-	25 acres

PINE APPLE.-

Suckers will be planted in rows 3' apart and 3' in the row taking 144 plants per plot 1 gunta in extent.

I. Varietal Experiments :- 6 varieties will be tested under Latin Square Method..	1 acre
II. Manurial Experiments :- Same as in Apples on Queen Variety	2
III. Irrigation Experiments.. ..	1
IV. Spacing Experiments	1
Total :-	5 acres
GRAND TOTAL :-	30 acres

29

With regard to the probable date of starting the Scheme, the actual start of acquiring the site with necessary preparation of ground, fencing, purchase of plants etc., will be taken on hand immediately the sanction is received.

Regarding the grant required during the current financial year a sum of Rs 1,500/- only under " Staff " will be required if the - Scheme as now modified is sanctioned by the end of September 1936. Considering the fact that the work regarding acquisition and ---- preparation of land and other works of Non-recurring nature will have to be done practically up to May next, no expenditure would be required to be met by the Imperial Council of Agricultural Research under " Maintenance " and hence no grant is necessary under this Head.

I have the honour to be

Sir

Your most obedient servant,

SUPERINTENDENT,
GOVERNMENT GARDENS IN MYSORE.

Estimate of cost to be met by Government of Mysore at Lalbagh.

Non-Recurring charges.

(APPENDIX A.)

S.No.	Particulars.	Total construction including the valuation of Buildings &c.	Actual amount required for 5 Years.	Remarks.
1.	Land - 30 acres Private Land -- @ Rs. 500/- per acre	Rs. 15000	Rs. 15000 ✓	
2.	Buildings:-			
a.	Farm Manager's Quarters.			
b.	Scientific Assistant's Quarters.			
c.	Quarters for Menial Staff(Watchman)	1000	1000 ✓	
d.	Cattle Shed at Lalbagh ..	2000		
e.	Potting & Grafting shed (Fruit Nursery at Lalbagh) ..	5000		
f.	Implement Shed ..	1000	1000 ✓	
g.	Office (Horticultural School - Buildings) ..	10000		
h.	Stores (Barn at the Horticultural Farm)	10000	2000 ✓	For alterations.
i.	Laboratory (Bureau of Economic Botany- building)..	10000		
3.	Other Items.-			
a.	Fencing 30 acres ..	2500	2500 ✓	
b.	Formation of land, drains, roads, pitting etc..	6000	6000 ✓	
c.	Storage tank, wells etc. ..	4000	4000 ✓	
d.	Pumps with pipe connections ..	6000	6000 ✓	
e.	Bullocks 2 pairs ..	500	500 ✓	
f.	Laboratory equipment ..	2000	2000 ✓	
g.	Plants, seeds etc. ..	6000	6000 ✓	
h.	Tools and Implements ..	1500	1500 ✓	
		Rs. 82500	47500	

"P". T.—O.

31

RECURRING CHARGES.

4. a.	Leave, Travelling Allowance, and Provident Fund. ..	5,000	5,000
b.	Electric Power ..	4,000	4,000
c.	Maintenance of Roads & Buildings etc.	1,000	1,000
d.	Unforseen charges ..	2,000	2,000
	Total:-Rs	12,000	12,000
	GRAND TOTAL :-	Rs 94,500/-	59,500/-

SUPERINTENDENT,
GOVERNMENT GARDENS IN MYSORE.

2nd

32

Dear Mr. Javaraya,

I am in receipt of your letter of the
1936 on the fruit research scheme. I must th
the great trouble you have taken to scrutinise
sais. We shall again examine the matter in th
your valuable suggestions.

Yours sincerely

G. 965-354

176

J.C. Javaraya, Esq., L.Agr, F.R.H.S.,
Senior Marketing Officer, Govt. of India,
New Delhi.

AGR. & MKV. SECRETARIAT
3 - OCT. 1936
DEVELOPMENT BRANCH

Memo no. 82-1

Copy of the above together with Mr.Javaraya's letter dated 28th September 1936 is forwarded to the Chief Secretary with compliments, for favour of further necessary action.

The main file is before the Assembly.

4/10/36

a/s. 9.9.
Early.

2/10

3.10.36

Dear Mr. Javaraya,

I am in receipt of your letter of the 28th September 1936 on the fruit research scheme. I must thank you for the great trouble you have taken to scrutinise the proposals. We shall again examine the matter in the light of your valuable suggestions.

Yours sincerely.

G. 965-35-4

176

J.C. Javaraya, Esq., L.Agr., F.R.H.S.,
Senior Marketing Officer, Govt. of India,
New Delhi.

AGR. & REV. DEPARTMENT
3 - OCT. 1936
DEVELOPMENT BRANCH

memo no. 82-1

Copy of the above together with Mr.Javaraya's letter dated 28th September 1936 is forwarded to the Chief Secretary with compliments, for favour of further necessary action.

a/s. 9.9.
Early.

Subs
The main file is before the Assembly.
Sb CB
Ce/10/36
5

MM
2/10
Ly
3.10.36

33

Urgent. D.O No. 2772 / Genl / G. 965-35-5 / 19/10/36

To

The Superintendent,
Government Gardens.

Dear sir,

With reference to the correspondence ending with your letter No. 353 dated the 21st Aug. 1936 suggesting some modifications on the - Fruit Research scheme sanctioned by the Imperial Council of Agricultural Research, I am desired to forward herewith a copy of letter by Mr. H.C. Javariah offering his comments on the modifications proposed as also on the alternative schem drawn up by you and Dr. Badami in July 1936 (a copy of which was given to the Second Member and to request you to further examine both the schemes in the light of the observations made by Mr. Javaraya, in consultation with Dr. Badami and submit a detailed report to Government in the matter ~~including an~~ the question of - financing the scheme after the cessation of the subvention sanctioned by the Imperial Council of Agricultural Research. Should also be examined.

The matter may kindly be treated as urgent.

Yours sincerely,

MS
11/10

19-10-36
Signed by the
D.-l Rao

MS
10.10.36

G. O. No. D. 3236-9
95

GENERAL AND REVENUE SECRETARIAT,

Dated Bangalore, ...~~14th November~~ 1936.

34 G. G 65-35

In connection with the Scheme for the development of fruit-culture in the State and the utilisation of the grant for research sanctioned by the Imperial Council of Agricultural Research, I am desired to state that a meeting has been arranged to be held in the Dewan's Council Chamber on 17th instant at 3 P.M. The Dewan will be glad if you can kindly find it convenient to attend the meeting.

~~to request you to be so good as to kindly make it convenient to attend and offer your suggestions.~~

Yrs

M

H.C.Javaraya, Esq., L.Ag., F.L.S., F.R.H.S.,

Y

G. H. Krishnagal —

[Dr. V. K. Badami
Mr M. K. Seetharama Chetty]

Bangalore
Nov 16, 1936

17 NOV. 1936

17 NOV. 1936

DEVELOPMENT BRANCH

Dear Mr. Krishna Iyengar,

I have received your D.O. no. D. 3282-9 of the 7th inst. and have arranged to hold a meeting in the Dewan's Camp Chamber, on the 17th inst. at 2 P.M. to consider with the Scheme for Investigation & Research in the State. As desired by the Dewan I shall attend the meeting.

Yours sincerely
H.C. Javaraya

B. T. Krishna Iyengar Esq., B.A.,
Chief Secretary to the
Government of Mysore.
Bangalore.

G. H. KRUMBIEGEL.

1596

DEVONSHIRE HOUSE
RESIDENCY ROAD.

BANGALORE, 16. 11. 1936

GG
17/11

Dear Dr Krishnan

REV. SECRETARIAT
18 NOV 1936
DEVELOPMENT BRANCH

I have your letter D.O. no D 3236-9 dtd 14th inst. and shall be glad to attend the meeting tomorrow at 3 pm as requested

Yours sincerely

G Krumbiegel

26

Telegraphic address :—
AGRISEC.

No. F.241/34-A.

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

~~Simla, Sx Wx~~ New Delhi, the 12th November 1936.

260
GOVT. OF INDIA REV. SECRETARIAT
18 NOV. 1936
DEVELOPMENT BRANCH

FROM

Bazlul Karim, Esq.,

Offg. SECRETARY,

To

The Secretary to the Government of
His Highness the Maharaja of Mysore,
Development Department Bangalore.

Subject:- Scheme for fruit cultivation in the Mysore State.

Sir,

I am directed to refer to this Department letter No. F.241/34-A dated the 9th June 1936 and to request that a reply to para 4 thereof may kindly be expedited.

I have the honour to be
Sir,
Your most obedient servant
Bazlul Karim
Offg. Secretary

DNG/9

Appendix F. G.—1]

SUBJECT..... Thotta Bhp

.....

.....

Diary No. of letter replied to.....

General and Revenue Secretariat

( )

the *194*

Date of issue.....

Signed by.....

List of enclosures.....

Copied by.....

Examined by.....

Section

File No.

Serial No.

No.

To

The Secy. I.C.A.R. New Delhi

Sir

In continuation of this office letter No G. 5250 dated the 21st April 44 confirming the telegram of the 10th April 1944 in regard to the continuance of the Fruit Research Scheme at Hessarghatta, from the 1st April 1944, I am directed to state that the Director of Horticulture who happen also was consulted in the matter has explained the urgent need of the of the extension of the scheme for several more months or the scheme viz 1) the continuance of the hybridised and Entomological work. 2) the employee

of a fisherman his pay being borne by the I.C.A.R. 3) Increase of the maintenance charges from Rs 4,500/- to Rs 5000/- p.a and 4) the revision of the scales of pay of the staff as most of them have reached the maximum of their grade.

In regard to the continuance of the mycological and entomological work at present I am directed to state that the many plant diseases and pests are being tackled in the station and that the elaboration of the various experiments now in progress are necessary to determine the ~~ultimate~~ results of the ~~investigations~~ researches before they could be discarded by pests and diseases.

In order to achieve this object, it is proposed to revise the scales of pay of the Scientific Assistant and the Assistant and obtain the services of Indian graduates who have Specialised in Entomology and Mycology respectively with a special aptitude for research. In order to carry on the work efficiently it is also proposed to set up a Committee of Management Consisting of the Director, the Dir of Hort and the Technical Officers of the Dept of Agriculture

G. R. S. App. F. G. 3.

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

to supervise the work of the Station to all precautionary measures are known to be taken to carry out efficiently the work of the research It is requested that the proposal of Continuing the entomological and any colonial work at the Station be approved.

In regard of the increased provision under Maintenance Charges from Rs 6500/- to Rs 8000/- I am directed to state that the estimate of Rs 100/- per acre p.a for maintenance charges was done fixed about six years ago when the conditions were different from what they are since to day. During the current year the Department of Horticulture has spent a sum of Rs 3500/- under Labour and Rs 2000/- on manure and has applied for an additional sum of Rs 1500/- under "Labour" and Rs 3000/- under "manure owing to the increase

WD 0282—GPB— 22,500—14-3-38

Cost of labour and materials. From this point of view the estimate of Rs 500/- by the Director of Horticulture for maintenance charges in respect of the demonstration farm of the D.C.A.R does not seem to be excessive and it is requested that the proposal made by the Department of Horticulture may kindly be agreed to.

On the question of the appointment of a salesman by the Station during the period of the continuance of the scheme, I am directed to state that the fruit trees have begun to yield and the receipts from the sale of fruits, plants and seeds are likely to increase during the coming years. and the work relating to this cannot possibly be attended to by the only clerk of the Station and hence for the proper and efficient handling of the business in order to maintain the level of receipts therefrom the post of a salesman who has to maintain close relations

and to arrange for the weighing
grading and packing of the articles
before their dispatch, has to be
considered essential. The Clerk
and laboratory attendant are
fully engaged and cannot be
altered to the work of the fisherman
In these circumstances the post
of the fisherman provided for would
kindly be approved

The Director of Horticulture has
brought the revision of the grade
of the Senior posts of the Station as
soon as these have always raised
the maximum of the grades
sanctioned to them. It
is now considered advisable to allow
the officials to stagnate during
the coming year when they have
to work with more vigour and
energy with better appreciation of their knowledge
to the needs of the Station. I
therefore I am to state that it is
proposed to obtain the services of

has been issued for entomological and mycological work and that for obtaining data upon the various Grants purposes are considered as adequate. The work in both on the technical and administration the station is likely to increase during the period of extension proposed to be sanctioned
It is therefore requested that the various Grants suggested by the Director of Horticulture may be favourably considered

The total cost on account of the extension of the scheme taking into account the above expenditure also in connection with the above proposals also will be Rs 77959/- for the next four years of which the I.C.A.R will have to bear Rs 52259/- as noted in the margin and the Govt of Mysore Rs 25700/- as details in the annexed statements.

Rs 32259/- - Establishment
Rs 20000/- Contingencies

I am to request you therefore to be so good as to place the matter before the Council at its next meeting and obtain and communicate the decision of the I.C.A.R. Advisory Board at its favourable consideration and Communicate approval of the proposals. Their decision as early as possible after the receipt of this letter over sanctioned
As the period of existing sanction of the scheme has already expired, the Comptroller of the Govt. is being requested to allow the staff (Continuation sheet attached) allowance etc. drawn in anticipation of the sanction for Continuance as proposed.

GENERAL AND REVENUE
SECRETARIAT.
G.R.S. App. I-D-8.

Yours etc.

Secretary

G. R. S. App. F. G. 3.

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

Memo.

Copy of the above is forwarded W.C. to the Drug Intelligence for information

B. O

28/2/35

J Greenway

WD 0282—GPB— 22,500—14-3-38

G. R. S. App. F VI—G. 2]

SUBJECT..... Three D/L 3

.....

.....

Diary No. of letter replied to .....

Section. G. G

File No.

Serial No.

General and Revenue Secretariat.

( )

the *194*

Proceedings of the Government of His Highness the Maharaja of Mysore.

Date of issue..... 194

Signed by .....

May this be—

(i) printed ?

(ii) treated as a Standing Order ?

(iii) published in the Gazette, English Part ?

(iv) translated ?

(v) placed at the disposal of the Press ?

(vi) published in the Gazette, Kannada Part ?

Flag A

Slip

Flag F

Read— G.O. No 5760-64/G.G 65-35-9 dated the 26/27 th February 1937 sanctioning a scheme for research in fruit cultivation at Hemavathi for a period of five years by the Imperial Council of Agricultural Research on receipt of certain undertakings and sanctioning Rs 46200/- during the period and recurring expenditure, Order thereon.—No.

2. Memo No D 4490/G.G 36-42-9 dated the 13th January 1943 sanctioning the continuance of the scheme referred to above from 1st July 1942 to 31st March 1945 on the

original
existing basis at a cost not exceeding Rs 7800/-

3) Correspondence ending with letter No 2768/H dated the 18th July 1944 from the Director of Horticulture requesting sanction to the continuance of the scheme referred to above till the 31st March 1948

Order

In this order dated 27th July 1943 Government sanctioned the starting of a Fruit Research Station at Hessarghatta on the recommendation of the Imperial Council of Agricultural Research, Delhi. The scheme was to run for a period of five years in the first instance, and the Council agreeing to pay a share not exceeding Rs 46209/- towards recurring expenditure during the period, leaving expired on 30-6-42 / The Operation Commenced from 1st July 1938 and the period, leaving expired on 30-6-42 was further extended till 31-3-46, so as to be co-terminous with the other Fruit Research Schemes in India. List of Enclosures

Vide the I.C.A.R Contribution sanction of Rs 49671/- towards recurring expenditure during the five-year period ending 30.6.43 during the period ending 30th June 1943, Copied by Examined by the Govt of Mysore agreed to bear Rs 7157-47/- towards non-recurring and Rs 2925/- towards

It was decided to ask the Government with their written scheme of work, as it was decided extended upto 31.3.48

G. R. S. App. F. G. 3.

GENERAL AND REVENUE SECRETARIAT.

(*Continuation sheet draft form.*)

recurring expenditure.

The D. C. A. R having requested the views of the Govt of Sikkim on the question of extending the scheme for the end of March 1948, the Dy Horticulturist was consulted in the matter, ~~requested to furnish his opinion on the proposal~~.

In this connection, the Director while explaining the necessity of continuing the scheme, stated that a revision of the grades of pay to the staff employed is of urgent importance and that the maintenance charges to be met after Govt's ~~Govt~~ have to be increased to Rs 5000/- p.a. according to the proposals, ~~which are under consideration~~ forwarded by him, the D. C. A. R will have to bear an ~~additional~~ amount of Rs 32259/- towards ~~recurring~~ maintenance charges ~~recurring expenditure~~ and Rs 20000/- for non recurring expenditure for maintenance. While the Govt of Sikkim will have Rs 25700/- from 1-4-48 to 31-3-48, the total

Expenditure [with] upto Rs 77959/-

Govt are pleased to sanction the
Continuance of the Scheme of
the Fruit Research Station at Hesaraghatta
for a further period of four years from
the 1st April 1944 ~~to the 31st March 1948~~
at a cost of Rs 77959/-, the D.C.A.R
Contributing Rs 52259/- and the
Govt of Mysore, a sum of Rs 25700/-, as in the
annexed Statements

The Director of Horticulture is required
to intimate [the] exact amount
that may be required [during] the
current year in order that a demand
for the amount may be placed
before the L.C at the ensuing [next] session.

Secretary

To the Dr of Horti
The Comptr thro FD
The Dr of Agri.

Appendix F G—1]

SUBJECT..... 37

.....

.....

Section G.G

File No. 65-35

Serial No. 6

Diary No. of letter replied to.....

No. D 3626

To

(Dear Mr. Krumbiegal)

With reference to the discussion held in the Dewan's Council Chamber on the 17th inst regarding the Fruit Research Scheme sanctioned by the Imp. Council of Agri Research and in accordance with the decision arrived thereat I am ~~directed~~ desired to request you to ~~kindly make~~ be so good as ~~a Conducted~~ to kindly to inspect the Hesaraghatta lands provisionally selected for the location of the Research Station and favour Govt with your views

General and Revenue Secretariat

( )

the *193*

Date of issue..... 1-12-36

Signed by ..... Mr. B.T.K.

List of enclosures.....

Copied by .....

Examined by.....

WD 03601—GPB—30,000—23-9-35

yr

at a very early date

Thanking you

(Y v)

28.11.86

28/11

GENERAL AND REVENUE SECRETARIAT

D. O. No. D. 3626
G:G. 65-35-6

Dated, Bangalore, ~~30th Nov. 1936.~~
1.12.36

39

My dear Mr Krumbegal

With reference to the discussions held in the Dewan's Council Chamber on the 17th instant regarding the Fruit Research Scheme sanctioned by the Imperial Council of Agricultural Research and in accordance with the decision arrived thereat, I am desired to request you to be so good as to kindly inspect the Hesaraghatta lands provisionally selected for the location of the Research Station and favour Government with your views at a very early date.

Thanking you

MK

G.H. Krumbeigal, Esq., F.R.H.S.
Retired Director of Horticulture in Mysore.
"Devonshire House" Residency Road
Bangalore

T 9.9.65-35-7

Telegram:—"HORTI".

GOVERNMENT BOTANIC GARDENS,
LAL-BAGH, BANGALORE.

No 01112

Mr. K. NANJAPPA,
Ag Offg. Superintendent.

Dated 2nd September 1936

REVENUE SECRETARIAT
3 - DEC. 1936
DEVELOPMENT BRANCH

Dear Sir,

With reference to D.O.No.D 2772/GG 65-35-5 dated 19-10-1936 enclosing a copy of the letter by Mr.H.C. Javaraya, offering his comments on the modified schemes for Fruit cultivation in Mysore State, I request you to kindly send me a copy of the proceedings of the meeting held on 17-11-1936 regarding the land and the other - points concerning the Fruit scheme so as to enable me to take further action in the matter.

Yours Sincerely,
K. Nanjappa
2.12.36

To
K.Subba Rao, Esq., B.A.,
Assistant Secretary to Government,
General and Revenue Secretariat,.
Bangalore.

4

Appendix F G—1]

SUBJECT Fruit Research Scheme in Mysore

Section G. 9

File No. 65-35

Serial No. 8

Diary No. of letter replied to.....

No. 8. 3792

To

Dear Sir

With refee to your D.O. letter of asking for ~~the~~ to be furnished with the 2nd instant, ~~requiring~~ a copy of the proceedings of the meeting held on 17-11-36 in connection with the fruit cultivation scheme, I am desired to state that according to the decision arrived at, Mr. Krumbiegel has been requested to inspect the provisionally selected ~~provisionally located~~ Hessarghatta lands ~~for~~ bearing the Research Station and furnish his opinion in the matter and that if he should approve of the site, further details of the scheme ~~is to be~~ should be worked out and submitted. ~~forwarded~~ to Govt.

General and Revenue Secretariat

( )

the 193

Date of issue 9.12.36

Signed by Mr. C. Chowdaiya

List of enclosures.....

Copied by .....

Examined by.....

Yours sincerely

To K. Ramiah Esq 5/12/36

Ag. Asst. G.S.

WD 03601—GPB—30,000—23-9-35

D. 3792/G.G. 65-35-8

7th December 1936.

Dear sir,

Fruit Research scheme in Mysore.

...

With reference to your D.O. letter of the 2nd instant asking for a copy of the proceedings of the meeting held on 17th November 1936 in connection with the fruit cultivation scheme, I am desired to state that, according to the decision arrived at, Mr. Krumbiegel has been requested to inspect the Hessarghatta lands provisionally selected for locating the Research station and furnish his opinion in the matter and that if he should approve of the site, further details of the scheme should be worked out and submitted to Government.

Yours sincerely,

(H) C.B. 9/12

K. Nanjappa, Esq.,
Acting Superintendent,
Government Gardens.

Appendix F G—1]

43

SUBJECT.....

.....

.....

Section G.G

File No. 65-35

Serial No.

Diary No. of letter replied to..... D.O. No. 4767

To

Dear Sir

I am desired to state that the Chief Secy to Govt will be present at the Laws at Hesaraghatta on the 23rd January 1937 in connection with the location of the Fruit Research Station and to request you to kindly instruct Lieut. V.S. Iyengar, Horticulturist Assistant to meet ~~to be waiting for~~ the Chief Secy at Soldevanahalli Rampura Stn at ~~on~~ on that day by P.A.M with all connected references and tea obliged.

Yours sincerely

by

D.O. K. Narasimha Rao 19.1.37

Ag. Director G.G.

General and Revenue Secretariat

( )

the 193 .

Date of issue 19-1-37

Signed by Mr. K.V. Rao

Off Lieut as directed by 19/1/37

Off abstained by D.G.S. for issue 19/1/37

List of enclosures.....

Copied by .....

Examined by.....

WD 03601—GPB—80,000—28-9-35

D. O. No. D 4767
G.G 65-35

GENERAL AND REVENUE SECRETARIAT,

Dated, Bangalore 18th January 1937.

Dear Sir,

I am desired to state that the Chief Secretary to Government will be inspecting the lands at Hessaraghatta on the 23rd January 1937 in connection with the location of the Fruit Research Station and to request you to kindly instruct Mr.N. S. Iyengar, Horticultural Instructor to meet the Chief Secretary at Soldevanahalli Pumping Station on that day at 8 A.M. with all connected references on the subject.

Yours sincerely,

For perusal
19.1.37

19.1.37

K. Nanjappa, Esq.,
Acting Superintendent
Government Gardens.

19/1

20.1.37

No.1513

Telegram :—"HORTI".

Mr. K.Nanjappa,
MXXXSITARAMSHETTY,
Offg. *Superintendent.*

GOVERNMENT BOTANIC GARDENS,
LAL-BAGH, BANGALORE.

Dated..21st..January.....1937

CHIEF SECY. SECR.
3853
21 JAN. 1937
DEVELOPMENT BRANCH

Dear Sir,

With reference to your D.O.letter No.4767/GG. 65-35 dated 19th instant regarding the inspection of the lands at Hessarghatta by the Chief Secretary to the - Government of Mysore on 23-1-1937, in connection with the location of Fruit Research Station, I write to - inform you that as desired by you Mr N.S.Aiyangar -- has been directed to meet the Chief Secretary to --- Government at Soldevanhalli Pumping Station on that day at 8 A.M. with all connected references on the subject.

Yours sincerely,

21.1.37

Offg Superintendent

To

K.Subba Rao, Esq., B.A.,
Assistant Secretary to Government of Mysore,
General and Revenue Secretariat,
Bangalore.

46

Bangalore Cantt
22.1.37

W.1
22

Dear Sir,

I shall meet the
Oberam Sahib at Cant Stn
Home Tomorrow at 8.30
A.M. to accompany him
to Hesserghatta

Yours sincerely
M. V. Lee
Lt. Col. Engineer

K. Sivaram Esq B.A. Bangalore
Cantt
Leader Secretary
C.H. Secretariat

Appendix F G—1]

SUBJECT..... & Covis

Tours 2 49

Section G. G

File No. 65-35

Serial No.

Diary No. of letter replied to.....

No.

To

Dear Sir

General and Revenue Secretariat

( )

the *193*

I am desired to ~~the~~ State that the Dewan will be inspecting the Lands near the Hessarghatta tom 23rd inst tomorrow in connection with the ~~location~~ selection of a site for the ~~Hatchery~~ a Fruit Research Station Date of issue..... Reservoir

Signed by .....

and to request you to make it convenient to ~~kindly~~ meet him at Cubbon House tomorrow at 8 A.M.

Yours sincerely

List of enclosures.....

To

1) N. Subba Rao Esq
Executive Engineer

Copied by .....

2) M. Narayana Reddy Esq
Asst. Economic Botanist

Examined by.....

3) ~~Dr V K Badami~~

WD 03601—GPB—30,000—23-9-55

P.T.O

Dy Dr of Agre

(4) K. Nanjappa Ag Supdt G. G

(5) V. Lakshmana Rao Manager State Farm

Memo

Copies of the above enclosures with Compts - to the Chief Engr

~~in charge~~ 2) the Dr of Arr.

for information

B. O

Chief Engr

3957

48

[illegible]

[illegible] visit,

D.O. No. D4 830-34 / Q-S 65-35 [illegible] the 2nd January 1937.

Sir,

I am desired to state that the Raja will be inspecting the lands near the Hosurghatta Reservoir tomorrow the 23rd inst. in connection with the selection of a site for the Fruit Research Station and to request you to make it convenient to meet him at Garrison House tomorrow at 8 a.m.

Yours sincerely,

To

1) Dr. V. K. Baijaani Dy Dr of Agri
2) Mr. M. Narayana Rao Senior Asst Professor
3) " N. Lobachar. Executive Engineer
4) " K. Narayappa Asst Engr. Q.S.
5) " V. Lakshmi Pura Manager Horticulture

22-1-37

Memo D4 835-6 Dated 22-1-37
Copy of the above is forwarded with compliments to the Dr of Agri & the Chief Engr for information.

B.O.
Sd/- Lobachar
for Chief Engr

for personal
Ch. Engr

22-1-37
Thanks
MS
22/1

25-1-37

PROCEEDINGS OF THE GOVERNMENT OF HIS

G.G 65-35-9 HIGHNESS THE MAHARAJA OF MYSORE.

R e a d:-

Mr. Javaraya's pamphlet on A scheme for research on Fruit Cultivation in the Mysore State.

Correspondence ending with letter No.F.241-34 A dated 9th June 1936 from the Secretary, Imperial Council of Agricultural Research communicating the sanction of the Council to the Scheme, subject to certain modifications at a cost not exceeding Rs.46,200.

Order No. D 5760-64/ G.G. 65-35-9

Dated, Bangalore the 27th ~~11th~~ Feb.37.

Mysore possesses certain natural (local and) ~~and artificial~~ facilities favourable for fruit cultivation; and, generally speaking, fruits of many varieties such as apples, grapes, mangoes guavas, pomegranates, figs, citrus, bananas, pine apples, etc., grown better on the Mysore Plateau than ~~the~~ in most other parts of India. A good deal of preliminary work in fruit culture has (also) been done by the Horticultural Department, but if further progress ~~was~~ is to be achieved it ~~was~~ is necessary that the work should be continued in a systematic manner in a well equipped experimental orchard ~~when~~ where the various technical problems connected with fruit culture could be taken up for detailed investigation and study. To this end a fruit research scheme was drawn up in 1934 by the Superintendent Government Gardens and submitted to the Imperial Council of Agricultural Research for sanction with a request for financial

assistance to the extent ~~and~~ of ~~the~~ Rs 88 800 towards recurring expenditure ~~estimated at Rs.33,880/-~~ in the first five years. The ~~non-recurring~~ balance of expenditure amounting to Rs.95,000/- was to be borne wholly by the State.

pp. 17-18 of M. Jamnagar pamphlet

2. The Council have now sanctioned the above scheme with certain modifications at a total cost (recurring) not exceeding Rs.46,200/- spread over a period of 5 years ~~(as per Appendix A attached)~~ (as per statement attached) on the terms and conditions mentioned in Appendix A. The modifications made by the Council are:-

1. The scheme should be limited to two items, viz. apples and miscellaneous fruit (which would include pine apples)
2. The area of the experimental orchard for apples should be 25 acres and that for miscellaneous fruit 20 acres;
3. That in view of the reduced area the appointment of the Assistant Farm Manager should be postponed till such time as he is actually needed. [The post has accordingly been omitted from the financial details and proposals for the appointment may be sent to this department when necessary.]

[ ] 8.

4. That instead of the number of foremen varying from one to four, two foremen may be appointed for the entire period of the scheme.
5. That the plant propagator should be provided for the first two years only.
6. That as the Mysore Department of Agriculture already has good Mycological and Entomological Sections, it should not be necessary to appoint an Assistant Mycologist, but that one Scientific Assistant on Rs.75-5-100 should suffice along with one laboratory attendant.

Asst. Entomologist

7. That only one clerk should be provided and that no storekeeper is necessary.
8. That a sum of Rs.100/- per acre per anum or Rs.22,500/- for the entire period of the scheme for 45 acres should be provided by the Council for maintenance charges including labour, manure, plant, seeds, etc.

3. It is further laid down that the planning and interpretations of manurial experiment should conform to the general

57

principles enunciated by the Fertilisers' Committee (Vide App.B.) and that a detailed technical programme of work for the scheme should be submitted for the approval of the Committee.

4. Government are pleased to accord administrative sanction to the above scheme as modified by the Imperial Council of Agricultural Research. Rough calculations show that Rs.46,200/- sanctioned by the Council towards recurring expenditure is quite inadequate and that nearly double that sum will have to be spent during the period of sanction. For ~~x~~ this reason and also because the initial outlay on the research station will be heavy, the Council will be requested to relax condition (vii) of Appendix A so that the receipts of the station may be appropriated for development and expansion.

The I.C.A.R. is not agreeable to this. Vide G.I. D. 61-62-36 dt. 65-35-11

5. The site for the Research Station has been selected in the Jodi Village of Aivarakhandapura close to the Hesarghatta Reservoir. The extent to be acquired is 50 acres and it is stated that the work on the Station has to be started in May next. The Deputy Commissioner, Bangalore District, is therefore requested to take immediate action to acquire the lands in consultation with ~~Dr. V.K. Badami~~ and the Superintendent, Government Gardens and report to Government ~~regarding~~ the probable cost ~~of~~ on account of acquisition.

6. For supplying water to the Station, the installation of an electric ~~force~~-pump and a distributory system of pipes is necessary. In addition, it has been decided that the building required for the staff, ~~the~~ office, laboratory, stores, etc., should

should be constructed on the Station itself. The Chief Engineer is requested to prepare the necessary plans and estimates in regard to these works in consultation with ~~Dr. Badami and~~ the Superintendent Virginia Government Gardens and submit them for the orders of Government.

7. The Superintendent, Government Gardens is requested to work out in consultation with ~~Dr. Badami~~ the Director of Agriculture full details of the cost ~~and~~ of initial equipment and the amount required for ~~necessary~~ recurring expenditure over and above the sum sanctioned by the Council and submit a report to Government at a very early date. A detailed technical programme of work to be carried out under the scheme may also be submitted to the Council for their approval.

8. The Superintendent, Government Gardens will be in administrative charge of the Research Station subject to ~~the~~ general supervision and control by the Director of Agriculture in regard to technical matters pertaining to the scheme.

Chief Secretary to Govt.

To

The Superintendent, Government Gardens.
The Director of Agriculture.
The Chief Engineer of Mysore.
The Deputy Commissioner, Bangalore Dist
The Comptroller to Government.

Aga/2..

Statement showing the cost of the scheme for fruit cultivation in the Mysore State to be met by the Imperial Council of Agricultural Research.

Recurring charges.

	1st year.	2nd year.	3rd year.	4th year.	5th year.	Total.
I. staff.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Farm Manager, (100-10-150). ..	1,200	1,320	1,440	1,560	1,680	7,200
2. Foremen 2, (40)	960	960	960	960	960	4,800
3. Plant Propagator, (50-5-75). ..	600	660	-	-	-	1,260
4. Scientific Assistant, (75-5-100).	900	960	1,020	1,080	1,140	5,100
5. Laboratory Attendant. (20) ..	240	240	240	240	240	1,200
6. Clerk. (35-5-60).	420	480	540	600	660	2,700
7. Peons 2, (12) ...	288	288	288	288	288	1,440
Total.	4,608	4,908	4,488	4,728	4,968	23,700
II Maintenance.	4,500	4,500	4,500	4,500	4,500	22,500
Grand Total.	-	-	-	-	-	46,200

App Schedule A 54

Terms and conditions to be observed in connection with the scheme for fruit cultivation in the Mysore State.

(i) That the grant will not be regarded as a subvention towards the normal work of the State but will be exclusively utilised for the scheme of fruit cultivation in the Mysore State as sanctioned by the Council.

(ii) that an annual progress report concerning the work done during each financial year will be submitted to the Council.

(iii) that the expenditure incurred from the grant will be audited annually by the Accountant-General of the Mysore State who will furnish the Accountant-General, Central Revenues, with a certificate that the grant has been spent on the objects for which it was made, any unspent balance being refunded to the Council on the termination of the scheme.

(iv) that the financial assistance rendered by the Council will be acknowledged in any published account of the work for which the grant is given.

(v) that the results of the investigations now to be undertaken will be published in the Indian Journal of Agricultural Science, or the Council consulted before the work is published elsewhere.

(vi) that the equipment and apparatus purchased out of the grant will be the property of the Council and that such items as are non-perishable will be returned to the Council on the termination of the scheme.

(vii) that the receipts realised from the working of the scheme will be credited to the funds of the Council at the end of each year

(viii) that the approval of this Department will be taken if a higher pay than the initial pay of the sanctioned scale is granted to any of the staff included in the scheme.

Extract from the recommendations of the Fertiliser's Committee, 1st Meeting 1930.

...

The Committee agreed to the following general principles which in its opinion should govern the planning of such experiments :-

(i) Statistical assistance wherever possible should be obtained in the planning and layout of a series of experiments;

(ii) Manurial experiments should be laid down in such a manner as to be capable of statistical interpretation at any time in the future.

(iii) Attention should be concentrated on a certain number of definite problems, for example, the most effective nitrogen and phosphate ratio.

(iv) Attention should be paid to disease and insect incidence.

(v) While the experiment was in progress, the services of a man who had special knowledge of the crop under experiment should be available to watch it.

(vi) Careful observation should be made of the effect of manures on plant growth; this would involve the preparation of plant development curves.

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE. 56

R e a d:-

Mr. Javaraya's pamphlet on A scheme for research on Fruit Cultivation in the Mysore State.

Correspondence ending with letter No.F.241-34A dated 9th June 1936 from the Secretary, Imperial Council of Agricultural Research, communicating the sanction of the Council to the -- Scheme, subject to certain modifications, at a cost not exceeding Rs.46,200.

O R D E R No. D 5760-64/G.G. 65-35-9

Dated Bangalore the 26th February 1937.
27th

Mysore possesses certain local and natural facilities favourable for fruit cultivation; and, generally speaking, fruits of many varieties such as apples, grapes, mangoes guavas, pomegranates, figs, citrus, bananas, pine apples, etc., grow better on the Mysore Plateau than in most other parts of India. A good deal of preliminary work in fruit culture has already been done by the Horticultural Department; but if further progress is to be achieved it is necessary that the work should be continued in a systematic manner in a well equipped experimental orchard where the various technical problems connected with fruit culture could be taken up for detailed investigation and study. To this end, a fruit research scheme was drawn up in 1934 by the Superintendent, Government Gardens, and submitted to the Imperial Council of Agricultural Research for sanction, with a request for financial assistance to the extent of Rs.88800 towards -- recurring expenditure in the first five years. The balance of expenditure amounting to Rs.95,000/- was to be borne wholly by the State.

2. The Council have now sanctioned the above scheme with certain modifications at a total cost (recurring) not exceeding Rs. 80,000/- spread over a period of 5 years (as per statement

attached) on the terms and conditions mentioned in Appendix A. The modifications made by the Council are:-

1. The scheme should be limited to two items, viz., apples and miscellaneous fruit (which would include pine apples)
2. The area of the experimental orchard for apples should be 25 acres and that for miscellaneous fruit 20 acres;
3. That in view of the reduced area the appointment of the Assistant Farm Manager should be postponed till such time as he is actually needed.
4. That instead of the number of foremen varying from one to four, two foremen may be appointed for the entire period of the scheme.
5. That the plant propagator should be provided for the first two years only.
6. That as the Mysore Department of Agriculture already has good Mycological and Entomological Sections, it should not be necessary to appoint an Assistant Mycologist and an Assistant Entomologist but that one Scientific ~~but that on Scientific~~ Assistant on Rs.75-5-100 should suffice along with one laboratory attendant.
7. That only one clerk should be provided and that no storekeeper is necessary.
8. That a sum of Rs. 100/- per acre per annum or Rs.22,500/- for the entire period of the scheme for 45 acres should be provided by the Council for maintenance charges including labour, manure, plant, seeds, etc.

3. It is further laid down that the planning and interpretation of manurial experiments should conform to the general principles enunciated by the Fertilisers' Committee (vide App.B.) and that a detailed technical programme of work for the scheme should be submitted for the approval of the Committee.

4. Government are pleased to accord administrative sanction to the above scheme as modified by the Imperial Council of Agricultural Research. Rough calculations show that Rs.46,200/- sanctioned by the Council towards recurring expenditure is quite in-

inadequate and that nearly double that sum will have to be spent during the period of sanction. For this reason and also because the initial outlay on the research station will be heavy, the Council will be requested to relax condition (vii) of Appendix A so that the receipts of the station may be appropriated for development and expansion.

5. The site for the Research Station has been selected in the Jodi village of Alvarakhandapura close to the Hessarghatta Reservoir. The extent to be acquired is 50 acres, and it is stated that the work on the Station has to be started in May next. The Deputy Commissioner, Bangalore District, is therefore requested to take immediate action to acquire the lands in consultation with the Superintendent, Government Gardens, and report to Government the probable cost on account of acquisition.

6. For supplying water to the Station, the installation of an electric pump and a distributory system of pipes is necessary. In addition, it has been decided that the buildings required for the staff, office, laboratory, stores, etc., should be constructed on the Station itself. The Chief Engineer is requested to prepare the necessary plans and estimates in regard to these works in consultation with the Superintendent Government Gardens and submit them very early for the orders of Government.

7. The Superintendent, Government Gardens is requested to work out in consultation with the Director of Agriculture full details of the cost of initial equipment and the amount required for recurring expenditure over and above the sum sanctioned by the Council and submit a report to Government at a very early date. A detailed technical programme of work to be carried out under the scheme may also be submitted to Government for transmission to the Council for their approval.

8. The Superintendent, Government Gardens will be in administrative charge of the Research Station subject to general

general supervision and control by the Director of Agriculture in regard to technical matters pertaining to the scheme.

For Chief Secretary to Government.

To

The Superintendent, Government Gardens.
The Director of Agriculture in Mysore.
The Chief Engineer of Mysore.
The Deputy Commissioner, Bangalore District.
The Comptroller to Government.

c.n.8

Statement showing the cost of the scheme for fruit cultivation in the Mysore State to be met by the Imperial Council of Agricultural Research.

Recurring charges.

Staff.	1st year. Rs.	2nd year. Rs.	3rd year Rs.	4th Year. Rs.	5th Year Rs.	Total. Rs.
1. Farm Manager, (100-10-150).	1200	1320	1440	1560	1680	7200
2. Foremen 2, (40)	960	960	960	960	960	4800
3. Plant Propagator. (50-5-75)	600	660	-	-	-	1260
4. Scientific Assistant, (75-5-100).	900	960	1020	1080	1140	5100
5. Laboratory Attendant. (20)	240	240	240	240	240	1200
6. C l e r k. (35-5-60)	420	480	540	600	660	2700
[illegible] e o n s 2 (12)	288	288	288	288	288	1440
Total	4608	4908	4488	4728	4968	23700
II Maintenance	4500	4500	4500	4500	4500	22500
Grand Total	-	-	-	-	-	46200

Per Chief Secretary to Government.

Terms and conditions to be observed in connection with the scheme for fruit cultivation in the Mysore State.

(i) that the grant will not be regarded as a subvention towards the normal work of the State but will be used solely utilized for the scheme of fruit cultivation in the Mysore State as sanctioned by the Council.

(ii) that an annual progress report concerning the work done during each financial year will be submitted to the Council.

(iii) that the expenditure incurred from the grant will be audited annually by the Accountant-General of the Mysore State who will furnish the Accountant-General Central Revenues, with a certificate that the grant has been spent on the objects for which it was sanctioned, and any amount has been refunded to the Council on the termination of the scheme.

(iv) that the information as to the results obtained by the Council will be acknowledged in any published account of the work for which the grant is given.

(v) that the results of the investigations not to be undertaken will be published in the Indian Journal of Agricultural Science, or the Council consulted before the same published elsewhere.

(vi) that the equipment and the articles purchased out of the grant will be the property of the Council and that such articles as are not serviceable will be returned to the Council on the termination of the Scheme.

(vii) that the unused portion of the amount sanctioned for the remaining of the scheme will be credited to the funds of the Council at the end of the financial year.

(viii) that the approval of this Government will be taken if any change in the initial plan of the sanctioned scheme is proposed to any of the staff employed on the scheme.

1/8

Telegraphic address :—
AGRISEC.

No: F- 241/34-A. 63

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

~~Simla, SMK~~ New Delhi, the 1st March ~~February~~, 1937.

FROM

N.C. Mehta Esq., I.C.S.,

SECRETARY,

GEN. & REV. SECRETARIAT
4820
5 MAR 1937
DEVELOPMENT BRANCH

OFFICE OF THE SECOND MEMBER
RECEIVED
1937
No. 6173

To

The Secretary to the Government of
His Highness the Maharaja of Mysore,
Bangalore.

5.3.37

Subject :- Scheme for fruit cultivation in the Mysore State.

.....

Sir,

I am directed to refer to paragraph 4 of this Department letter No. F-241/34-A dated the 9th June 1936 and subsequent reminder No. F-241/34-A dated the 12th November 1936, and to request the favour of an early reply.

I have the honour to be
Sir,
Your most obedient servant,
Secretary.

Subject for orders with a draft
K.S. 8.3.37
Draft for consideration.
The Supdt. Gdn. will be requested to expedite the submission of the technical programme
Ch. Secy 8.3.37
I.D. 25.2.
For appl
2nd member) 9/3
9.3.37
10/3/37 10/3 Issued 10.3.37

CHIEF SECRETARY
9.[illegible] 193[illegible]
GOVT. OF MYSORE

Appendix F. G.–1]

SUBJECT

64

Section. G. G.

File No. 65-35

Serial No. 10

No. D 6076/Encl

Diary No. of letter replied to

To

The Secretary

Imperial Council of

Agri. Research New Delhi

General and Revenue Secretariat.

( )

the *193*

Date of issue 19-3-27

Signed by M K. Subba Rao

Sd. 1 4-

Sir,

With reference to para 4 of your letter No. F. 241/34/A 89. 61038 and subsequent reminders ending with your letter of 1st March 1927 calling for a detailed technical programme of work in connection with the Scheme for fruit cultivation in the Nilgiris, Palni, Anamalais & Shevaroys that Govt. have accorded

List of enclosures

Copied by

Examined by

by accepted
administrative sanction dated

Scheme as modified by the D.C.D.R.
and have called for a detailed programme
of works to be carried out in the Counties
The programme will be duly forwarded to
you when rec'd.

A copy of D.C.D. passed by this year
in this matter is enclosed for your information. | Subject to approval

In this Connection, I am to state
that range calculations made here
show that the sum of £ 4 & 2001.
sanctioned by the D.C.D.R. towards the
recurring expenditure is quite inadequate
and that nearly double that sum will
have to be spent during the period
of sanction. For this reason and also
because the initial outlay on the
Research station will be heavy, I am
to request you to move the Council to
be so good as to relay the conditions attached
thereto in receipt of the grant of the Council.
(Cl. vii of the Terms and Conditions sent to Encl:
to you dated 29.6.36), so that the receipt of this Station
may be approximated for the development
envisaged in the Scheme.

I have the
Minister's
Yours

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat

No. D 6076/G.G. 65-35-10 Encl.

Dated, Bangalore, 13th March *193*7

From

The *Chief Secretary to the Government of His Highness the Maharaja of Mysore.*

To

The Secretary, Imperial Council of
Agricultural Research, New Delhi.

Sir,

With reference to para. 4 of your letter No. F. 241/34/A dated the 9th June 1936 and subsequent reminders ending with your letter dated the 1st March 1937 calling for a detailed technical programme of work in connection with the scheme for fruit cultivation in the Mysore State, I am directed to state that Government have accepted the scheme as modified by the Imperial Council of Agricultural Research and have called for a detailed programme of work to be carried out in this connection. The programme will be duly forwarded to you when received.

A copy of Government order passed by this Government in the matter is enclosed.

In this connection, I am to state that rough calculations made here show that the sum of Rs. 46,200/- sanctioned by the Imperial Council of Agricultural Research towards recurring expenditure is quite inadequate and that nearly double that sum will have to be spent during the period of sanction. For this reason and also because, the initial outlay on the Research Station will be heavy, I am to request you to be so good as to move the Council to relax the conditions about crediting the receipts to the funds of the Council (Cl. vii of the terms and conditions sent as enclosure to your letter dated the 9th June 1936) so that the receipts of the station may be appropriated for the development and expansion of the scheme.

I have the honor to be,
Sir,
Your most obedient servant,
(Sd) K. Subba Rao

C.R.G.2

Telegraphic address :—
AGRISEC.

No. F.241/34-A. 6167

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH.

Simla, ~~XXX~~, the 3rd May ~~April~~ 1937.

FP. 65-35-14

OFFICE OF THE SECOND MEMBER OF COUNCIL. 1 MAY 1937 No. 8273 OFFICE 51 S.152

FROM

N.C. Mehta, Esq., I.C.S.,
SECRETARY,

GOVT. OF INDIA. 8 MAY 1937 DEVELOPMENT BRANCH

To

The Chief Secretary to the Government of
His Highness the Maharaja of Mysore,
General and Revenue Secretariat,
Bangalore.

CHIEF SECRETARY. 8. MAY 193 GOVT. OF MYSORE.

Subject:- Scheme for fruit cultivation in the Mysore State - crediting of receipts to the Council.

Sir,

With reference to paragraph 3 of your letter No. D.6076/G.G. 65-35-10 dated the 13th March 1937, I am directed to express regret that clause (vii) of the terms and conditions under which the scheme was sanctioned cannot be relaxed. It is necessary that the scheme and budget, as sanctioned, should be strictly adhered to.

I have the honour to be
Sir,
Your most obedient servant.
N Mehta
Secretary

Subject for information and necessary orders
Reference paragraph 4 of D.No. D.5760-64 G.G. 65-35-9 dated 27.2.37.
It appears, copy of this letter will be sent to the Dir. of Agri. and Animal Husb.
11.5.37

Ch. Rey 13-5-37

2nd member
Dewan

14.5.37

14.5.37

SECRETARY. 14. MAY 193 GOVT. OF MYSORE.

Pl. 31-5-37.

15/5/37

17-5-37

Issued G.O. No. D 7995-6 dated 27-5-37

S.30.4.

19/5

20/5/37

18.20.5.37

Issued

20-5-37

Appendix F G—1]

SUBJECT .....

.....

.....

Section P.P.

File No. 65—35

Serial No. 15

No. D 7993-94

Diary No. of letter replied to.....

To

Copy of Letter no. F. 241-34 A dated 3rd May 1937 from the Secy, D.C.A.R. to the Chief Secy. to Govt.

—·—

Forwarded, with Compliments, the (i) Report. G.S. for wi-. (ii) Note. of Depn. formation with reference to your - # of G.O. no. D-5376-64 G.S. 65-35-9 D 27.2.37) regarding the Scheme for research on fruit cultivation in Mysore.

Rao

for 20.5.37

for Chief Secy

General and Revenue Secretariat

( )

the *193*

Date of issue 27-5-37

Signed by M.K. Subba Rao

List of enclosures.....

Copied by .....

Examined by .....

Letter No.F.241-34 A dated 3rd May 1937 from the Secretary Imperial Council of Agricultural Research to the Chief Secretary to Government.

Subject - Scheme for fruit cultivation in the Mysore State - crediting of receipts to the Council.

With reference to paragraph 3 of your letter No.D.6073/G.G. 65-35-10 dated the 13th March 1937, I am directed to express regret that clause (vii) of the terms and conditions under which the scheme was sanctioned cannot be relaxed. It is necessary that the scheme and budget, as sanctioned, should be strictly adhered to.

Memo No. D 7993-94/G.G. 65-35-15

General and Revenue Secretariat,
Dated, Bangalore, 26th May 1937.
27/5

Copy of the above is forwarded with compliments to the (i) Superintendent, Govt. Gardens (ii) Director of Agriculture for information with reference to para 4 of Government Order No.D.5760-64/G.G. 65-35-9 dated 27th February 1937 regarding the scheme for research on Fruit Cultivation in Mysore.

By Order,

K Veeraam

For Chief Secretary to Government.
18

ACH.3.